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BIOGRAPHICAL MEMOIRS

OF THE MOST CELEBRATED

PHYSICIANS, SURGEONS,

ETC. ETC.

WHO HAVE CONTRIBUTED TO

THE ADVANCEMENT OF MEDICAL SCIENCE.

BY

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"APOLLINEO NOMINA DIGNA CHORO."

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SHEPHERD & CO. LONDON.

JOHN ABERNETHY, F.R.S.

&c. &c. &c.

"He shines eccentric, like a comet's blaze!" SAVAGE.

THERE is, perhaps, no professional name more generally known than that of the subject of this memoir; his talents have been fully acknowledged, and his genius admitted; yet, of the circumstances connected with his birth and education, both the profession and the public appear to be in almost complete ignorance. The place of his nativity seems even not to have been clearly ascertained: for, on the one hand, he is represented to have derived his existence in the town of Abernethy in Scotland, whilst, on the other, he is said to have been born at Derry in Ireland. I can, however, state, that neither Scotland nor Ireland can be allowed the honour of claiming John Abernethy as one of their sons. He was born in London, on the site of Finsbury-square, I understand in the year 1765. His father was a native of Scotland, and his mother of Ireland His uncle is known in the literary and theological world by a published volume of tracts and sermons; and Mr. Abernethy had a portrait of this divine, which was suspended in one of the rooms of his house in Bedford-row.

Of the particulars of his general education, I only know that he was placed at a school in Lothbury. There is no evidence of his being distinguished by any high classical attainments, nor did he pretend to any such excellence. Upwards of twenty years have now elapsed, since he applied to me, as the Registrar of the Medical Society of London, relative to the supposed knowledge of the Small Pox by Galen; and he had a reference to a passage in the writings of that great physician, which he was desirous of consulting on the subject. I placed before him one of the volumes of the works of this author, containing the passage; and when he saw that it was entirely in Greek, he blew a long whistle, and called out, "Pooh! pooh! I can't read Galen in Greek; I never read Galen in Greek; you must translate it for me." High classical attainments are not, it is well known, necessary to success in surgery or medicine; in these sciences, the senses must be particularly exercised—the observation of nature, in all her operations, must be cultivated with peculiar care, and the connexion of cause and effect must be steadily traced. By these alone can the acquisition of sound professional knowledge be secured. Classical attainments, however, serve to exalt the mind—to enlarge, to regulate, and to embellish it,

and, above all, to subject it to an order and discipline which is of essential importance to the medical student. Mr. Abernethy was brought up under a teacher by whom classical lore was little esteemed—genius supplied its place; and the pupil, Abernethy, was in every respect qualified to tread in the steps of his most distinguished master, John Hunter. Of the veneration he entertained for the opinions of this great man, his writings afford abundant proofs. I have already shown this in the memoir of Mr. Lawrence, as it relates to the doctrine of life—a doctrine he advocated to the extreme. Mr. Abernethy had great qualifications fitting him for physiological inquiry. His intellect was of a high order, but his application was not equal, and he read but little; and his almost blind devotion to the opinions and theories of his great master, tended, I think, to limit the exercise of his own faculties. He seemed to feel, of Hunter, that

> ——— "there's no syllable
> You speak, but is to me an oracle,
> Which but to doubt, were impious." MASSINGER.

Mr. Abernethy's earliest instructor in anatomy was the late Sir William Blizard, whom he succeeded as Professor of Anatomy and Surgery to the Royal College of Surgeons, in 1814. In the introductory lecture, delivered in connexion with this office, Mr. A. generously avowed his obligations to his teacher. He adverted to the advice which had been given to him, and to the students, to lead them to honourable distinction by diligently searching for the truth, and being wary of admitting propositions to be facts, without previously submitting them to the strictest examination.

"He displayed to us (said Mr. A.) the *beau ideal* of the medical character. I cannot readily tell you how splendid and brilliant he made it appear;—and then, he cautioned us never to tarnish its lustre by any disingenuous conduct, by any thing that wore even the semblance of dishonour. He caused the sentiment of the philanthropic Chremes, in the Heautontimorumenos of Terence, to be inscribed on the walls of the hospital-surgery, that students should have constantly before them an admonition to humanity, drawn from a reflection on their own wants: *Homo sum; humani nihil a me alienum puto.*"

Mr. Abernethy, with all his natural eccentricity, which led him often to acts of great rudeness, was at heart a most benevolent man; and many anecdotes might be recorded of him to illustrate this, were it necessary. The detail of many minute circumstances, which the limits of this memoir will not admit, would form the most infallible guide to the natural dispositions of his heart. The late Lord Erskine observed, that "it is the nature of every thing that is great and useful, both in the animate and inanimate world, to be *wild and irregular;* and we must be contented to take these with the alloys which belong to them, or live without them;" and Mr. Abernethy must be considered under this point of view. He was humane, benevolent, and good-natured, but he had an irritable temper. I have enjoyed many opportunities of meeting Mr. A. professionally; and I am bound to say, that

at a *patient's house* no man could evince greater patience or kindness than he did; but that at his *own abode* his conduct was essentially different, too many instances are currently reported to admit of a doubt upon the subject. These, however, have served, at least, to amuse the public, and show that he possessed wit and humour. An anecdote or two may not inappropriately here be admitted:—

A man of rank consulted Mr. Abernethy, and was received by him with remarkable rudeness. Upon some severe remark being made, the patient lost his temper, and told Mr. A. he would make him *eat his words*. "It will be of no use," said Mr. A., coolly, "for they will be sure to come up again!"

"Pray, Mr. Abernethy, what is a cure for gout?" was the question of an indolent and luxurious citizen. "Live upon sixpence a day—and earn it," was the cogent reply.

He is reported to have been consulted by the late Duke of York; and he stood before his royal highness, whistling, with his hands in his breeches-pockets, as usual. The duke, astonished at this conduct, said, "I suppose you know who I am?" "Suppose I do," said he, "what of that?" And his advice to his royal highness was given thus: "Cut off the *supplies*, as the Duke of Wellington did in his campaigns, and the enemy will leave the citadel."

A barrister had a small ulcer on the leg, which was difficult to heal, and he determined to apply to Mr. Abernethy. Aware of his impatience and eccentricity, he, immediately upon entering his room, began to pull down his stocking. "Holloa! holloa! what the devil are you at?" said the surgeon. I don't want to see your leg; that will do—put it up, put it up." The patient did so; but, justly dissatisfied with the imperfect manner in which his case had been considered, he, instead of the usual fee, placed a shilling only upon the table. "What is this?" said Mr. A. "Oh," replied the barrister, "that will do—put it up, put it up," and coolly walked away.

The late famous John Philpot Curran, Master of the Rolls in Ireland, was personally unknown to Mr. Abernethy, and had visited him several times, without having had an opportunity of fully explaining the nature of his malady: at last, determined to have a hearing, when interrupted in his story, he fixed his dark bright eyes on the surgeon, and said—"Mr. Abernethy, I have been here on eight different days, and I have paid you eight different guineas; but you have never yet listened to the symptoms of my complaint. I am resolved, Sir, not to leave this room till you satisfy me by doing so." Struck by his manner, Mr. Abernethy threw himself back in his chair, and assuming the posture of a most indefatigable listener, exclaimed, in a tone of half surprise, half humour,—"Oh, very well, Sir, I am ready to hear you out. Go on, give me the whole—your birth, parentage, and education. I wait your pleasure; go on." Upon which Curran, not a whit disconcerted, gravely began,—"My name is John Philpot Curran. My parents were poor, but I believe honest people, of the province of Munster, where also I was born, being a native of Newmarket, county of Cork, in the year one thousand seven hundred and fifty. My father being employed to collect the rents of a Protestant gentleman, of small fortune, in that neighbourhood, obtained my entrance into one of the Protestant free-schools, where I received the first rudiments of my education. I was next enabled to enter Trinity College, Dublin, in the humble sphere of a *sizer*;" and so he continued for several minutes, giving his astonished hearer a true, but irresistibly laughable account of his "birth, parentage, and education," as desired, till he came to his illness and sufferings, the detail of which was not again interrupted. It is hardly necessary to add, that Mr. Abernethy's atttention to his gifted patient was, from that hour to the close of his life, assiduous, unremitting, and devoted.

Poor Curran's sufferings sprang, unfortunately, from his irregularities; and I cannot forbear recording that which passed at the last interview I had with him, which was in the waiting-room of the Duke of Sussex's apartments in Kensington palace, but a few weeks before his death. I had formerly seen much of him, and it was in gay, jovial, and learned society—associated with men of genius and eccentricity, whose irregularities, like those of Curran, served but to render them more delightful. Not having seen him for some time, we mutually inquired after our old acquaintances; and I was induced to express my regret that the love of opium in one remarkable instance, and the love of drink in others, had operated so unfavourably upon the health and fortunes of those we esteemed and loved. I could not help expressing my astonishment in relation to one individual in particular, that no warning would operate, and that nothing would divert him from his dreadful course of inebriety; upon which Curran stopped me short with this remark: "Oh, Mr. Pettigrew, there is a great pleasure in *getting* drunk; if it were not for three things, I would be drunk every night of my life." "Ah! Mr. Curran, what may these three things be?" I inquired. "Why, Sir," says he, "in the first place, the *sin*;" that I knew would not operate very powerfully with my friend—"in the second, the *shame*;" that was not likely much more to deter him—"and in the third," he added, in his own peculiar manner, "the *sickness*." Alas! I fear the state of the digestive organs took Curran—the eloquent and the witty Curran—to Abernethy, and gave rise to the anecdote I have just narrated.

It would be easy to extend this sketch by the introduction of further anecdotes told of the eccentricity of Mr. Abernethy. The newspapers and the magazines have already detailed them; and perhaps there would be some difficulty in separating the true from the false: for when any one has obtained the reputation of saying that which is strikingly singular or witty, a multitude of things are then passed currently with his name. The object of this memoir is not to detail personal character farther than connected with professional conduct; and that which has already been adduced, is I trust, sufficient for this purpose. I will not attempt to justify the conduct of Mr. A. towards the persons consulting him; his impatience was uncontrollable, and it manifested itself in acts of great rudeness towards those who had no means of defence, and whose condition, from bodily infirmity, ill qualified them to sustain it. I believe that the impatience manifested at his own residence frequently arose from his anxiety to be at the hospital for the performance of his duties; and instead of representing this in proper terms to his patients, he would almost take them by the shoulders, and push them from his door. Sir Astley Cooper could tell, if he were so disposed, a variety of curious instances of this sort; for his income was materially increased by the fees received from those who had either quitted Mr. Abernethy in disgust, or felt unequal to the contest with such an antagonist.

But the lecture-room was the grand theatre upon which Mr. Abernethy displayed; there, indeed, he "shone eccentric, like a comet's blaze!" and there he would indulge his disposition and propensities to an extent which occasioned the pupils frequently to regard it as an exhibition, and call it an "Abernethy at Home." His mode of entering the lecture-room was often irresistibly droll—his hands buried deep in his breeches-pockets, his

body bent slouchingly forward, blowing or whistling, his eyes twinkling beneath their arches, and his lower jaw thrown considerably beneath the upper. Then he would cast himself into a chair, swing one of his legs over an arm of it, and commence his lecture in the most *outré* manner. The abruptness, however, never failed to command silence, and rivet attention.

"'The Count was wounded in the arm—the bullet had sunk deep into the flesh —it was, however, extracted—and he is now in a fair way of recovery.' That will do very well for a novel, but it won't do for us, Gentlemen: for 'Sir Ralph Abercromby received a ball in the thick part of his thigh, and it buried itself deep, deep: and it got among important parts, and it couldn't be felt; but the surgeons, nothing daunted, groped, and groped, and groped,———and Sir Ralph died.'"

Then he would enter upon an admirable discourse on the nature of gunshot wounds—their peculiar character—the course they followed—and he would reprobate, in the strongest manner, the impropriety and danger of seeking after balls in deep-seated parts, or in the cavities of the human body. Then he would contrast the improvements that had been made by the moderns over the practice of the ancients; and, by the relation of often ludicrous and always interesting anecdotes, fix the subject on the minds of his pupils in the most indelible manner.

Mr. Abernethy had occasionally a most fearful practice of thinking aloud. On the day of one of his introductory lectures, when the theatre of St. Bartholomew was as full as it could possibly be, and the cheering upon his appearance had subsided, he was observed casting his eyes around, seemingly insensible to the applause with which he had been greeted, and he exclaimed with great feeling and pathos, "God help you all! what is to become of you!" evidently much moved by the appearance of so great a number of medical students seeking for information to be fitted for practice. He truly entertained a deep sense of the responsibility which attaches to the medical practitioner, as he felt fully the variety of knowledge such a profession demands. Anatomy, he held of the first importance: he declared it to be the only foundation on which the structure of medical science could be built, and that without it we should but increase the sufferings of those afflicted with diseases, and endanger their lives. In his Hunterian Oration, he says:—

"How absurd should we deem the conduct of a mechanic, whose business it was to rectify the errors of any complex machine, should he merely provide himself with the finest and fittest tools for the purpose, and neglect to learn its mechanism, by which alone he can be able to discover the causes of the error, or stoppage of its different movements, and consequently, what is wanting to be done to render it again perfect or useful. Yet equally absurd would be the conduct of medical men, were they to study botany, pharmacy, chemistry, and natural philosophy, searching, indeed, through all the paths of nature, and the stores of art, for means of cure, and yet neglect anatomy, by which alone they can be able to distinguish the nature of the difference between health and disease, and, consequently, what is requisite to reconvert the latter into the former; which is the only circumstance that can render medicine a science."

Mr. Abernethy lost no opportunity of impressing upon the minds of his pupils the importance of their duties, and the necessity of study and careful observation—lessons he had himself derived from his teachers.

Mr. Abernethy was the apprentice of Mr., afterwards Sir Charles Blicke, one of the surgeons of St. Bartholomew's Hospital. He attended not only the lectures of Sir William Blizard and Mr. John Hunter, as already noticed, but also those given by Mr. Hewson and Mr. Falconar. He must also, I presume, have attended Mr. Pott, as attached to the hospital of St. Bartholomew. Such a mind as that possessed by Mr. A. would seek for information from every quarter—he would be anxious to "light his torch at every man's candle." Mr. Hunter appears to have appreciated the talents of his pupil, for he invited him to come, and sit and talk with him: and Mr. A. has lamented that, not then forming a proper estimate of the information he should obtain from such an intercourse, he did not avail himself of this invitation to a greater degree.

Upon the retirement of Mr. Pott from the hospital, Mr. Abernethy was appointed assistant-surgeon; a post he occupied for the extraordinary period of twenty-eight years. He did not become one of the surgeons-in-chief until the death of Sir Charles Blicke, and upon this occasion he printed an address to the president and governors of the hospital, in which he points out what he considers to be the degree both of bodily and mental vigour requisite for the performance of the surgical duties, and suggests that no one beyond a certain age should be permitted to continue as actual surgeon, but that he should become consulting or superintending surgeon, with certain emoluments as a proper reward for his previous labours. He contends that there is a period of our lives, when we lose both the disposition and the power to advance in knowledge; and that, consequently, the practice of an old surgeon will remain, as it were, stationary after that period; and, as he looks upon surgery as a progressive science, that the practice, therefore, of old surgeons, will not keep pace with the advancing improvements. To be an efficient surgeon, the sight must be acute, the hand steady and pliant, and the mind capable of the most vivid and fixed attention.

Upon his appointment as assistant-surgeon, he began to lecture on anatomy and surgery. He had at first but a small class, from the popularity of Dr. Andrew Marshal, a distinguished teacher in Holborn. He, however, steadily pursued his labours, and with increasing years obtained increasing fame, and upon the death of Dr. M. he arrived, it may be said, at the utmost popularity as a teacher. He may indeed be looked upon as the real founder of the medical school of St. Bartholomew's Hospital.

Mr. Abernethy was about four years senior to Sir Astley Cooper: they were very good friends, but they did not meet often. Mr. A. commenced business in St. Mildred's Court, in the Poultry, where he was visited by Mr. Cooper, and to whom he marked out a sort of succession of apprenticeships he intended to subject himself to. "I intend (said he) to live *seven*

years in the city, *seven* years in the middle of the town, and *seven* years at the west end, or fashionable part of London, and then I shall conclude my professional labours." At his residence in the city he had but little furniture. Sir Astley recollects a camera lucida, by which he made some anatomical drawings; and he had that which made his visitor smile—a hornet's nest,—which made Sir Astley facetiously remark to Mr. A., that he had already a hornet's nest about him. How long he remained at St. Mildred's Court, or whether he completed his proposed *seven* years, I know not; but he removed to Bedford Row, (the middle part of the town,) where he remained during the whole of his professional career.

Some time previous to his death he resigned the hospital, and retired altogether from practice: his health decayed rapidly—he withdrew from London, and, after a protracted illness, died at Enfield, April 20, 1831. His eccentricity continued during his existence, and towards the last he is reported to have joked upon the œdematous state of his legs produced by the disturbance of the circulation and his difficulty of breathing. Some one inquired of him how he was? to which he replied, "Why, I am better on my legs than ever: you see how much stouter they are!" His hobby retained full possession also to the end of his life. He attributed his disease to the stomach. He said, "It is all stomach; we use our stomach ill when we are young, and it uses us ill when we are old." But it is not a little singular, that he expressly enjoined that no examination of his body should take place!

Mr. Abernethy was elected a Fellow of the Royal Society in 1796. He was Surgeon to St. Bartholomew's Hospital, and also to Christ's Hospital. He was an Honorary Member of the Royal Medical Society of Edinburgh, and of the Medical Societies of Paris, Philadelphia, &c. He had for many years been one of the Council of the Royal College of Surgeons, and one of the Curators of the Hunterian Museum.

It remains to notice Mr. Abernethy's works, and the papers communicated by him to the Transactions of different Societies, &c.

In 1793 Mr. Abernethy's first distinct work appeared, under the denomination of *Surgical and Physiological Essays*, a small octavo volume, inscribed to his surgical teacher, Mr. (afterwards Sir Charles) Blicke. This volume contains an *Essay on the Lumbar Abscess*, and in this is detailed an improvement in its treatment which has kept its ground to the present day, and is practised by the best surgeons. Perceiving that as long as the condensed cellular substance which forms the cyst of an abscess remains entire, it continues free from inflammation, and the contained pus undergoes no putrefactive or other change of quality—and that in cases in which an opening is either indiscriminately made or produced by an ulcerative process that inflammation rapidly ensues, by which life is often speedily destroyed—Mr. A. suggested and carried into practice a process, simple in its nature, beautiful in its application, and most happy in its effects. This

practice consists of making an aperture into the sac of a lumbar abscess, to evacuate the contents, and then immediately closing the wound, which may be readily effected by not allowing the wounds in the skin and the cyst to correspond. By the withdrawal of the fluid, the sac contracts—as more fluid is collected, the same process is repeated, so that, in the course of time, the sac becomes obliterated. This does not take place in all cases, but in many it ensues, and the mode of treatment proposed by Mr. Abernethy is therefore to be looked upon as one of the improvements introduced into modern surgery. In this essay, Mr. A. suggests the application of this practice to cases of spina bifida. This was successfully adopted by Sir A. Cooper. The volume contains also an *Essay on the Composition and Analysis of Animal Matter.*

In the same year, a second part of these Essays appeared, containing papers *On the Nature of the Matter perspired and absorbed from the Skin*, and *On the ill Consequences sometimes succeeding to Venesection.* The first essay is entitled to notice, as the functions of the skin are far from being fully understood. Mr. A. analyzed the air in which the hand or foot had been confined for a certain length of time, and he detected in it a quantity of carbonic acid, serving to confirm Mr. Cruikshank's views upon this subject, for he regarded the matter of perspiration, and that expelled from the lungs in breathing, to be similar in their qualities. The experiments which have been made to illustrate the process of respiration, are, to say the least, very unsatisfactory as to their results. To ascertain the changes which the air undergoes by its progress through the lungs, it is necessary to inquire into the quantity respired. The discrepancy in these statements is truly astonishing. Sir H. Davy stated the quantity to be thirteen cubic inches in each respiration, and twelve and three-quarters at each expiration. Messrs. Allen and Pepys have named it sixteen and a half; Mr. Kite, seventeen; Mr. Goodwyn and Mr. Abernethy, twelve; and Jurin of Geneva sets it down at twenty; Richerand carries it beyond this, and assumes it to be between thirty and forty. At this highest number it is estimated by many eminent physiologists and philosophers, among whom I may name Menzies, Jurin, Thompson, Sauvages, Haller, Chaptal, John Bell, Soemmering, Fontana, and Dalton. It is a question, whether the air inspired be really diminished by the process of respiration. Sir H. Davy thinks it is as before stated, and such may be regarded as the generally received opinion; but in what degree, it is not possible to say, as the errors incidental to such minute experiments, applying either to the apparatus or other circumstances, are such as necessarily to render the matter any thing but precise. Mr. Abernethy, and, since his time, Dr. Edwards, have made experiments which go to show that the bulk of the air is absolutely increased by respiration. I shall revert to this interesting subject at some more fit opportunity. Mr. A.'s experiments on the functions of the skin are deserving of the attention of every physiologist. *A Case of Malformation of the Heart.*

in which the aorta and pulmonary artery both arose from the right ventricle, and in which the foramen ovale was open, is given at the conclusion of this essay.

The third part of these Essays was published in 1797, and contains an important paper *On Injuries of the Head.* Mr. Abernethy has the merit of having prevented many an unnecessary operation in these cases by the information he has given on the subject. Injuries of the head are now pretty well understood, and the propriety of not interfering too much with nature, unless symptoms absolutely demanding attention are present, may be looked upon as fully established. The volume details some *Experiments on Irritability*, and some *Surgical Cases and Remarks.* These principally consist of cases of aneurism, in which Mr. Hunter's operation had been successfully performed, and a case often alluded to as the *first* in which the external iliac artery was tied.

Mr. Abernethy's next publication was in 1804, and entitled *Surgical Observations.* These relate to an attempt at *A Classification of Tumours according to their Anatomical Structure. An Account of Diseases which strikingly resemble the Venereal Disease: and Various Cases illustrative of different Surgical Subjects.* The classification of tumours is a subject of great difficulty: no satisfactory definitions have yet been given; and as I have already stated in the memoir of Mr. Lawrence, "We must attend to histories, collect facts, and, at some future period, this department of pathological science may be more fully elucidated." With respect to *Pseudo Syphilis*, many practitioners must be aware of the importance of the subject, and the difficulty which frequently attends the discrimination of these cases. Mr. A. has detailed some of great interest, and they would seem to demonstrate the necessity of forming a judgment upon their nature by a careful investigation of their histories and progress, and not upon their general aspect or appearance. Mr. A. says, that the constitutional symptoms of syphilis are generally progressive, and that they never disappear unless medicine be employed, and that they are generally relieved under an adequate effect of mercury on the constitution. He cites, in support of this opinion, the agreement of several surgeons of eminence; yet subsequent investigation has disproved the accuracy of this statement. The action of syphilis is not regularly progressive, and can be removed without the employment of mercury in any form whatever. There are instances in which the disease has worn itself out without the use of this medicine, and without proving fatal to the individual affected. The *Various Cases*, are additions to his former papers on *Injuries of the Head, Aneurism, &c.* The second case in which he tied the external iliac artery, is given in this volume.

In 1806 Mr. Abernethy put forth his Surgical Observations, containing *An Account of the Disorders of Health in general, and of the Digestive Organs in particular, which accompany Local Diseases, and obstruct their*

Cure, &c., &c. This is the "Book" upon which Mr. Abernethy's popularity has principally rested. His constant advice, "Read my Book," has made this work so generally known to the profession and the public, that it is unnecessary to give any particular account of it. Mr. A. assumes too much in attributing to surgeons in general an ignorance of medicine; but he has doubtless done much to correct such an omission, by showing, in a more forcible manner than had hitherto been done, that the effects of local disorders upon the constitution have been too little attended to, and he has the merit of tracing philosophically all the conditions between local and general disease. His great object appears to be, to establish as a theory, that the irritation which follows as a consequence from local disease, produces, through the medium of the nervous system, great disorder of the digestive functions, and that this disorder aggravates and maintains the continuance of the local disease from which the general derangement had originally been produced. Cases of various kinds, illustrative of these opinions, are detailed, and the work must be looked upon as a valuable contribution to medical literature. Mr. A.'s attachment to his opinions on this subject, led him, frequently, I fear, to disregard the real disease. He would consider no case, but in relation to some disorder of the digestive organs: he could see no local affection, without referring it to constitutional disorder. I was once consulted by a lady for a common affection of one of the bursæ mucosæ of the knee-joint, which had been occasioned by a blow received against the edge of a step. She went to Mr. Abernethy, and was about to show the affected part, when he rudely exclaimed, "I don't want to see your knee, Ma'am! Allow me?" and he pressed his fist with force upon her stomach. She called out, and he declared her digestive organs to be at fault. The treatment she had received occasioned her to have an attack of hysterics, in the alarm at which, I was called in. She was afterwards under my care, and recovered completely without taking a single dose of medicine. The case was strictly *local*. This is indeed a sad perversion of the judgment. The possession of such preconceived opinions were, I doubt not, in many cases highly injurious. But it was his *hobby;* and, as Sterne says, "Have not the wisest of men in all ages, not excepting *Solomon* himself—have they not had their hobby-horses—their running-horses — their coins and their cockle-shells—their drums and their trumpets—their fiddles—their pallets—their maggots and their butterflies? and so long as a man rides his hobby-horse peaceably and quietly along the king's highway, and neither compels you or me to get up behind him,—pray, Sir, what have either you or I to do with it?" Mr. A.'s popularity, however, to a certain extent may be said to have compelled those who were sick to resort to him, and they could scarcely be thought competent to form a correct opinion in a matter personal to themselves, and professional in its nature.

In 1809 Mr. A. published another volume of Surgical Observations *On the Constitutional Origin and Treatment of Local Diseases, and on Aneu-*

risms. This will be seen to be in some measure a continuation of the subjects embraced in former publications. There are also several additions to previous papers on the *Occasional Ill Effects of Venesection; on Emphysema; on the Puncturing of the Bladder; &c.*, which it would occupy too much time to particularize; for in this, as in all Mr. A.'s publications, there is a sad want of arrangement.

Mr. Abernethy's *Lectures* at the Royal College of Surgeons in 1814 and 1817, and his *Inquiry into the Probability and Rationality of Mr. Hunter's Theory of Life*, have been already noticed in the memoirs of Mr. Hunter and Mr. Lawrence. In 1819 Mr. Abernethy delivered the Hunterian Oration at the college, which contains a good view of the rise and progress of surgery, and the great achievements effected by Mr. Hunter, a theme upon which he ever delighted to dwell.

To the works above enumerated, various editions of which have from time to time appeared, with additions, modifications, &c., Mr. A. printed papers in the Philosophical Transactions, the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, the Transactions of the Medico-Chirurgical Society, the Edinburgh Medical and Surgical Journal, and Rees's Cyclopædia, with a brief notice of which I must close the present sketch.

In the Philosophical Transactions there are three papers:

1. (Vol. LXXXIII. p. 59.) *Account of Two Instances of Uncommon Formation in the Viscera of the Human Body.* In the first case there was a singular transposition of the heart and distribution of the blood-vessels, and a strange formation of the liver. Mr. A. supposed the bile in this case to have been secreted entirely from arterial blood. Mr. Kiernan has made a more particular examination and dissection of the preparation, which is in the museum of St. Bartholomew's Hospital, and has given a good account of it in his paper on the Physiology of the Liver. He does not consider the instance as militating against the opinion that bile can only be formed from venous blood. The second case is of an uncommon formation of the alimentary canal. It consisted of an extraordinary disproportion of the large and small intestines, the latter being only two feet in length, whilst the former measured more than twice that extent. The whole length of the intestinal canal in this subject did not reach more than six feet, though, according to the length of the body, it should have been not less than twenty-seven feet.

2. (Vol. LXXXVI. p. 27.) *Some Particulars in the Anatomy of a Whale.* These relate to the peculiar arrangement of the lacteals in this genus of animals.

3. (Vol. LXXXVIII. p. 103.) *Observations on the Foramina Thebesii of the Heart.* Mr. Abernethy conjectures the use of these openings to be for affording the vessels of the heart destined for its own nourishment the means of relieving themselves when surcharged, by pouring a part of their

contents into the cavities of the organ. Vieussens first noticed these foramina, but Thebesius expressly described them. Their existence is, notwithstanding, exceedingly doubtful.

In the second volume of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, Mr. A. contributed *An Account of a singular Disease in the Upper Maxillary Sinus.* A fungus filled the antrum, the bone covering which was destroyed by the actual cautery: the fungus then spread out upon the cheek, and could not be restrained until the patient was attacked with fever, upon which it sloughed away and never returned. Exostosis, however, succeeded—irregular in its shape, and of considerable size. Mr. A. did not expect any advantage from an operation, and therefore declined doing any thing. Surgeons of the present day would not have hesitated to remove it. The patient fell into the hands of a quack, who produced an extension of the disease.

In the first volume of the Transactions of the Medico-Chirurgical Society, Mr. A. has given *An Account of A Diminution (in consequence of disease) of the Area of the Aperture by which the Left Auricle of the Heart communicates with the Ventricle of the same side.* The left auricle was twice its natural size, and the opening of communication reduced so small as not to admit of the passage of any thing larger than a moderate-sized bougie. Mr. A. does not consider that inflammation alone produced this contraction, but is disposed to attribute it, in some measure, to the action of the heart itself, in consequence of the fleshy columns of the organ which terminate in the chordæ tendineæ of the mitral valves becoming morbidly irritable from the presence of inflammation or other causes. Another case, somewhat similar, but in which the valves were more diseased, is also related, and a case of uncommon disease of the ovary. It was encysted, and the contents were like to that fluid which is secreted by the sheaths of tendons and the bursæ mucosæ. Portions had become cemented together like balls, and assumed a granular character, the result of motion, according to the opinion of Mr. A.

In the Edinburgh Medical and Surgical Journal for January, 1807, there is *An Account of a case of Femoral Aneurism reaching as high as Poupart's Ligament*, and for which Mr. A. successfully tied the external iliac artery. This was the *third* instance in which he had secured this vessel.

To Rees's Cyclopædia, I understand, Mr. Abernethy contributed the anatomical and physiological articles, from the word Artery to Canal. He is noticed in the preface to that work as one of the contributors, in conjunction with Mr. Lawrence, for the Anatomy and Physiology.

M. H. Baillie

MATTHEW BAILLIE, M.D. F.R.S.

"Opum contemptor, recti pervicax, constans adversus metus."

TACITUS.

THE great biographer and moralist has declared the physician, in a great city, to be "the mere plaything of fortune;" or, that "his degree of reputation is for the most part casual;" that "they who employ him know not his excellence; they that reject him know not his deficience." It is true that, for a time, the talents of a physician may not be properly estimated; or, what is far more likely, may be overrated—the chance of success, however, must necessarily be in some degree proportionate to the merit and talents of the individual, and, although propitious circumstances may influence the regularity of the connexion, or the accuracy of the proportion, yet success in practice constitutes the standard by which a judgment is to be formed; and this it is not difficult to ascertain—for the liberal education now given to all classes, and the dissemination of all kinds of professional knowledge, render the bulk of the community very competent judges of the value of medical skill in the present day. The union of great abilities with unwearied diligence, assuredly does not always command eminence in the medical profession—honour and affluence do not uniformly follow the possession of the highest talent. Much frequently depends on the advantages of position in society, family connexions, and often agreeable address. Yet, generally speaking, it may, I think, be fairly stated, that talent united to zeal and assiduity, seldom fails of exciting attention, and, although it may not meet with that elevation to which it is justly entitled, it will, nevertheless, place the individual in an honourable station in his profession and in society. The man who is best acquainted with his profession, is certainly the one most likely to succeed.

"Think frequently, think close, read NATURE,"

is the recommendation of an esteemed poet. Science is the only clue by which the labyrinth can be explored. A physician can have little pretension to ability, who has not made a study of the various parts of the human frame upon which he is destined to practise—on which he is to direct the operation of his remedies, and whose actions he is to watch over, to excite, subdue, or control. Observation is the foundation of true physic. Hippocrates is the model of accuracy in this respect, and it is in the writings of the Greek physicians that we must seek for the best authorities in medicine. I have elsewhere observed, that that man is not necessarily the most experienced physician who has seen the greatest number of cases. He who has reflected the most, and examined most

minutely, is likely to be the best physician. Diseases are frequently so obscure in their nature, that probable conjectures only can be formed as to the remedies necessary to be employed, or of the issue likely to occur.

The importance of a knowledge of anatomy to the medical practitioner, is universally acknowledged, and viewing and admitting the connexion that must necessarily exist between the parts of the body in their healthy and diseased state, the importance of examining the dead must be obvious. Until a comparatively very late period, the neglect of this branch of inquiry is truly astonishing. Some few anatomists among the ancients have directed their attention to the subject, and the records of Bonetus, Mangetus, Morgagni, and Lieutaud, are familiar to all persons well read in their profession. Examining the dead, to ascertain with precision the changes of structure produced by disease, is absolutely necessary; and to no individual of modern times are we so much indebted, as to Dr. Baillie, for calling the attention of the members of the medical profession to this essential branch of study.

Matthew Baillie was born on the 27th October, 1761, in the manse of Shotts, in the county of Lanark. He was the son of the Rev. James Baillie, D.D., the professor of Divinity in the University of Glasgow; and Dorothea, sister of the celebrated anatomists, Dr. William, and Mr. John Hunter. This connexion on the maternal side, could not fail to afford great advantages to any aspirant to medical fame, and Baillie reaped them to the full. Having received the earlier part of his education under the superintendence of his father at the grammar-school at Hamilton, he was sent, in 1773, to the college of Glasgow, where he distinguished himself. He attended the Greek and Latin classes for two seasons, and in the third, cultivated the mathematics, logic, and moral philosophy, the latter being then professed by the celebrated Dr. Reid. Thence, having been appointed to an exhibition, he went, in 1779, to Baliol College, Oxford, and took his degree in arts and in physic, receiving his doctor's degree in 1789. During the vacations, he resided in London with his uncle Dr. William Hunter, who had, indeed, adopted him as a son, and by whose advice Baillie had embraced the medical profession, for it is said he would have preferred either the church or the bar. He was much engaged in making anatomical preparations for the lectures, and was employed also in conducting the demonstrations, and in overlooking the dissections of the students.

Upon the death of his uncle, in 1783, Baillie succeeded to the lectures in conjunction with Mr. Cruikshank, and gave his first course in the session of 1784-5. As a teacher, he succeeded in the highest degree—his demonstrations were remarkable for their clearness and precision—abstruse and difficult points under his hands became most simple and intelligible—he possessed a perfect conception of his subject, and imparted it with the utmost plainness and perspicuity to his hearers. He continued to lecture until 1799.

Mr. Wardrop has quoted a character of Dr. Baillie, as a lecturer, given by one of his most distinguished pupils, whose name, however, does not transpire.

"There was something in his mode of lecturing which, though not eloquent, irresistibly commanded the attention of his hearers: it was that of a person completely master of his subject, and anxious to convey knowledge to others. He was singularly clear in his demonstrations, yet concise and condensed; he was never at a loss for an appropriate word or phrase; never made repetitions; never introduced an observation out of its proper place; and he had nothing to assist him, except in a few introductory discourses, but the mere heads of his lectures. His manner was not without animation, yet always modest, and most unostentatious; and the attention of the student was excited, not by brilliancy of composition, but by a remarkable fluency and precision of expression.

Dr. Baillie did not rapidly rise into practice—he acquired it gradually. He was appointed one of the Physicians to St. George's Hospital in 1787, and he retained this office during thirteen years. In 1789, he was admitted a candidate at the College of Physicians; and, in 1790, elected a Fellow. He was appointed Censor in 1792, and again in 1797, and in 1794-5, one of the Commissioners for the inspecting and licensing of houses for the reception of insane persons. His success in practice arose from his celebrity as an anatomical teacher, and his great acquaintance with his profession. These, united to his amiable manners, procured for him the friendship of many of the most eminent members of his profession, and among others, that of Dr. David Pitcairn, whose professional knowledge and literary attainments were universally acknowledged. Dr. P. entertained a very high opinion of Dr. Baillie's talents, and consulted him as his own professional adviser. In 1798, this physician was compelled to quit London for a milder climate, and went to Lisbon. His secession from practice brought Dr. Baillie into great demand, for he attended the chief part of Dr. P.'s patients, and he rose rapidly into eminence, being consulted by all classes of society. His relationship to the Hunters, and his marriage, in 1791, with the eldest daughter of Dr. Denman, contributed also to advance the fortune of Dr. Baillie in his profession. The death of Dr. Warren also contributed not a little to extend his engagements. Having been called to attend upon the Duke of Gloucester, he obtained so strongly the good opinion of the royal family, that upon the king's subsequent illness, he was consulted; and, in 1810, he was appointed Physician to his majesty, and a baronetcy was offered him; but this he had the prudence to decline, not being ambitious of such distinction. His professional receipts were said in one year to have reached £10,000. He might have increased them much further; but this would not have been agreeable to his feelings, or in accordance with his character. He was much sought for in consultation, for he was very ready in the expression of his opinion, quick in seizing upon the particular character of the disease, and in bringing the fruits of his great experience to illustrate his views. He has been described as being equally happy in his mode of commu-

nicating his opinion to the patient, avoiding all unnecessary technical phrases, assuming no mawkish sentimentality, but stating the fact in plain and simple terms, sometimes with pleasantry, if the case admitted of it, otherwise with gentleness and gravity. By these means he conciliated and tranquillized the sufferer, and gained the approbation of his professional brethren with whom he was engaged on the occasion. Frankness, sincerity, and great good sense, marked all he said and did, and it could not fail to render him a popular consulting physician. The deportment which characterized him at the bed-side of the sick, distinguished him equally in his writings—nothing like consequence or pomposity—all modest and unpretending. That book upon which his medical fame principally rests, substantiates the truth of this remark.

Stahl has considered the neglect of the study of pathology, or the knowledge of the determinate causes of diseases and their effects, as an opprobrium to medical men. Baillie was the first of modern times to remove this censure, and, although the subject has now, since the classification of the different textures of the body, assumed a totally different direction, by which the utility of morbid anatomy is rendered more apparent, Dr. Baillie's work, which considers the different parts or organs under the various diseases with which they may be affected, is at least a treasure of honestly and accurately recorded facts for future pathologists to refer to. This work has been translated into several languages, and has gone through many editions, (five in his lifetime,) the best of which is that by Mr. Wardrop, who has very judiciously prefixed to it "Preliminary Observations on Diseased Structures." It has been translated into German by Söemmering, and published at Berlin in 1794, and by Hohnbaum, and published in 1820: into Italian by Gentili, at Padua, in 1807, and by Zami, at Venice, in 1820; and into French by Ferral, at Paris, in 1803, and by Guerbois, in 1815. Dr. Baillie did not form an unreasonable opinion of the value of his Pathological Inquiries: in his preface he modestly expresses his regret that "the knowledge of morbid structure does not lead with certainty to the knowledge of morbid actions, although the one is the effect of the other; yet surely it lays the most solid foundation for prosecuting such inquiries with success." In the 2d edition, Dr. B. added the "Symptoms of Diseases," and availed himself of the observations of Professor Söemmering and other distinguished anatomists. His labours have been correctly estimated by an able writer in the Edinburgh Medical Journal. In speaking of works on pathological anatomy, he characterizes those of Voigtel, Portal, and Baillie, in the following manner: "The German is tediously minute, exact, and prolix; the Frenchman is luminous, copious, and verbose: the Englishman is simple, short, perspicuous, and useful; not a word is said more than is necessary, and that word is always directed to the point." The plates to illustrate this work were published in fasciculi from the year 1799 to 1802.

Dr. Baillie was elected a Fellow of the Royal Society in 1789, and his earliest papers appeared in the Philosophical Transactions for 1788 and 1789.

1. *An Account of a Remarkable Transposition of the Viscera.* In this case the whole of the thoracic and abdominal viscera were completely transposed, those of the right side of the body were found placed upon the left side, and *vice versa.* Cases of a similar kind have been recorded by Winslow, Sir A. Cooper, Dr. Quain, Dr. Watson, and others.

2. *An Account of a particular Change of Structure in the human Ovarium.* The change of structure here alluded to consisted of a conversion of the ovarium into a fatty mass intermixed with hair and teeth, of which there are now several instances on record. It is worthy of remark, that the subject of this condition was a child about twelve or thirteen years of age.

To the "Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge," Dr. Baillie contributed no less than eleven papers:

1. *On the Want of a Pericardium in the Human Body.* This is a deficiency of very rare occurrence. The heart was in no way connected to the diaphragm. The subject was an adult of the middle period of life.

2. *Of uncommon Appearances of disease in Blood Vessels.* One of these offered an example of the obliteration of the carotid artery which had become aneurismal. Nature had, by the formation of a firm coagulum, effected a cure of the disease of the vessel. Among other observations in this paper, is the relation of an impervious vena cava inferior, from the entrance of the emulgent vessels to the right auricle of the heart. The circulation was carried on by enlarged lumbar veins and the vena azygos.

3. *Of a Remarkable Deviation from the Natural Structure in the Urinary Bladder and Organs of Generation of a Mule.* Many instances of similar malconformation are upon record.

4. *A Case of Emphysema, not proceeding from Local Injury.* The cause of this was not apparent upon dissection. Dr. B. thought that the small blood-vessels distributed on the cells of the cellular membrane might have a power, under particular circumstances, of secreting air.

5. *An Account of a Case of Diabetes.* Dr. B.'s opinion as to the cause of this disease appears to favour that which ascribes it entirely to renal disorder.

6. *An Account of a Singular Disease in the Great Intestines.* In this case a large portion (at least six inches) of the colon was thrown off during life. No *post mortem* examination could be obtained.

7. *An Account of the Case of a Man who had no Evacuation from the Bowels for nearly fifteen weeks before his death.* This arose from stricture at the sigmoid flexure of the colon.

8. *On the Embalming of Dead Bodies.* This paper gives an account of the modes of embalming adopted by the ancient Egyptians, as recorded by Herodotus and Diodorus Siculus. Of these methods, and of modern

embalmings, I have given a full account in my "History of Egyptian Mummies," to which I must refer the reader who feels an interest to be acquainted with this curious subject.

9. *An Account of several Persons in the same family being twice affected with Measles.*

10. *Additional Instances of Measles occurring twice in the same person.*

11. *Three Cases of Inflammation of the Inner Membrane of the Larynx and Trachea terminating quickly in Death.*

The first case is that of Dr. D. Pitcairn, and the second of Sir. J. M. Hayes, Bart., both of the medical profession. The cases related are of persons all subject to attacks of cynanche tonsillaris, and, as the laryngeal affection in an acute form is not of frequent occurrence in adults, it would appear reasonable to conclude that those liable to quinsy are also most susceptible of laryngeal or tracheal inflammation.

The 4th and 5th vols. of the "Medical Transactions," published by the College of Physicians, contain seven papers by Dr. B.

1. *The Case of a Boy seven years of age, who had Hydrocephalus, in whom some of the Bones of the Skull once firmly united, were, in the progress of the disease, separated to a considerable distance from each other.* An extremely rare case. The ventricles contained nearly a pint of fluid.

2. *Of some Uncommon Symptoms which occurred in a Case of Hydrocephalus Internus.* The subject of this case was a gentleman fifty-six years of age. It is one of the very curious instances upon record of the loss of recollection of the words of his own language except a very few, which he is said to have

"pronounced with the greatest distinctness, exhibiting none of that thickness in his pronunciation which is so common in paralytic patients. These words, *Yes, Yes, No, No, Mr. Reed, Yesterday,* were employed upon all occasions, with a great variety of tone, to express pleasure and displeasure, joy and sorrow, to explain the circumstances of his disorder, and to give directions about what he wanted. He did not seem to be aware that these words were not the proper ones to express his meaning, for he often betrayed impatience when he was not understood, and was not mortified at repeating so often the same words: other words he could pronounce distinctly, but he hardly ever did it, except in repeating some word that any person in his presence had just uttered."

3. *Upon a Strong Pulsation of the Aorta, in the Epigastric Region.* This is frequently dependent upon disorder of the digestive organs. The presence of the pulsation has often given rise to a suspicion of aneurism.

4. *Upon a Case of Stricture of the Rectum, produced by a spasmodic contraction of the internal and external sphincter.*

5. *Some Observations respecting the Green Jaundice.* This is almost invariably fatal. Dr. B. never knew but two cases of recovery. The distinction of symptoms between green and yellow jaundice are well noticed, and may prove useful.

6. *Some Observations on a Particular Species of Purging.* The alvine discharge in these cases resembled lime mixed with water, and very frothy. Mr. Wardrop examined a patient who died of this affection, and found considerable thickness of the coats of the great intestines, particularly the rectum, great contraction of the canal, and small but deep ulcers interspersed over the surface.

7. *Some Observations upon Paraplegea in Adults.* Dr. Baillie considered this form of paralysis to have much increased of late years in this country; but could not assign any satisfactory reason for it. Of the cause productive of the affection, there is much contrariety of opinion. He regarded it as depending, in a great measure, on a disease affecting the brain itself, and not the spinal chord, as generally entertained.

These, with the edition of the work on the Anatomy of the Human Gravid Uterus, by Dr. Hunter, published in 1794, constitute the whole of the works of Dr. Baillie printed during his life-time. It is very much to be regretted that he wrote so little, possessing, as he did, much professional knowledge and great experience, for

> "———— old experience doth attain
> To something like prophetic strain."—Milton.

The active duties of his profession, however, left him few moments of leisure beyond those devoted to social intercourse; a necessary relaxation, to one so anxiously and so incessantly engaged. Towards the latter part of his practice he confined himself principally to consultations. In this way he hoped to gain a little leisure; but his hopes were frustrated, and his exertions proved too much for his frame—the labour of the mind was too great for the power of the body—the balance of intellectual and physical ability was destroyed—hence the following picture sketched by Mr. Wardrop:—

"When he became harassed with business, an irritation of temper sometimes disturbed him, but which, from the kindness of his heart, was immediately followed by such compunction, as occasioned him far more trouble, than if he had at once complied with an intrusive request. Often has he been known, under such circumstances, thus to express himself: 'I have spoken roughly to that poor man, I must go and see him, be it ever so late.' 'That patient is in better health than I am in myself; but I have been too hard with him, and must make him amends.' 'I have been impatient with that poor hypochondriac.' Thus the irritable temper and the kind heart were at constant variance with one another, to the injury of his tranquillity, and the increase of his bodily fatigue. He has frequently come to his own table, after a day of hurry and annoyance, and held up his hands to his family circle ready to welcome him home, saying, 'Don't speak to me,' and then, by and by, after having drank a glass of wine, he would look round with a smile of affection, saying, 'You may

speak to me now,' and never was he more agreeable than when one of these dark shadows had passed over him. After he had limited his practice to consultations, he one day said with much satisfaction, 'I am glad to find that I can now give any body that speaks to me a civil answer.'"

Dr. Baron has given a very pleasing account of Dr. B. at Duntisbourne in 1820. "It was cheering to see the great London physician mounted on his little white horse, riding up and down the precipitous banks in the vicinity of his house, or trotting through the green lanes, and opening the gates, just after the manner of any Cotswold squire. Nothing could exceed the relish of Baillie for the ease and liberty, and leisure of a country life, when he first escaped from the toil and effort and excitement of his professional duties in London. Duntisbourne stands in rather a picturesque situation; the house overhangs a deep wooded dell, and is fronted, on the opposite bank, by the church and hamlet of Edgworth. The ramifications of this dell are intricate and beautiful; but there was little else in the Doctor's vicinity to gratify the eye. Every thing wore an aspect of cheerfulness to him; and whether he was traversing the bleak summit of the Cotswolds, or taking his pastime in the more cultivated domains of Pimbery or Oakeley, he was equally happy and equally bouyant." Here Dr. B. had interviews with Jenner, to whom he was well known, from the intimacy that had existed between Jenner and John Hunter; and Baillie was among the first to estimate properly the advantages of vaccination, and to give to it all the support which his influence and high professional character could bestow.

In 1823, he suffered from an attack of inflammation of the mucous membrane of the trachea; to relieve which, he quitted London for Tunbridge Wells, without experiencing much relief. He, therefore, retired to his seat, Duntisbourne House, near Cirencester, in Gloucestershire, where, with great calmness and resignation to the Divine will, he expired on the 23rd of September.

Upon intelligence of the death of Dr. Baillie being received at the College of Physicians, the following record was directed to be inserted in the college annals, and bears date September 30th, 1823:

"That our posterity may know the extent of its obligations to the benefactor whose death we deplore, be it recorded, that Dr. Baillie gave the whole of his most valuable collection of anatomical preparations to the college, and six hundred pounds for the preservation of the same; and this, too, (after the example of the illustrious Harvey,) in his life-time, (Dec. 1818.) His contemporaries need not an enumeration of his many virtues, to account for their respectful attachment to him whilst he lived, or to justify the profound grief which they feel at his death. But to the rising generation of physicians it may be useful to hold up, for an example, his remarkable simplicity of heart, his strict and clear integrity, his generosity, and that religious principle by which his conduct seemed always to be governed, as well calculated to secure to them the respect and good will of their colleagues and the profession at large, and the high estimation and confidence of the public."

By his will, he also bequeathed to the college all his medical, surgical, and anatomical books, the copper-plates of his illustrations of morbid anatomy, other little curiosities, and, among the rest, the gold-headed cane of the celebrated Dr. Radcliffe. And, in case of his son dying without issue, a further sum of £4,000. He bequeathed also, £300 to the Society for the Relief of the Widows and Orphans of Medical Men, of which he was the President. His effects were sworn under £80,000, and his will is dated May 21st, 1819. His two introductory lectures to his courses of anatomy, delivered in 1785; his lectures upon the nervous system, delivered before the college as the Gulstonian lectures in 1794; and a short account of his medical practice,—were directed to be printed, but not published, his modesty disposing him to think them not of sufficient value for publication, yet too useful to be lost. Of this work one hundred and fifty copies only were printed, as presents to the author's friends; but a translation into German was made by Hohnbaum, at Leipsic, in 1827. Mr. Wardrop published an edition of Dr. B.'s works in 1825, and prefixed a life of the author. In this are recorded some dissections, principally made from 1784 to 1793. They are merely memoranda, and not sufficient in detail to be of much value.

Dr. B.'s character, professional and moral, are entitled to great praise, and many anecdotes have been recorded which redound much to his honour. Mr. (now Sir C.) Bell has recorded one in an introductory lecture to a course of anatomy, which must not be omitted.

"The merest chance (says he) brought me acquainted with a circumstance very honourable to Dr. Baillie. While still a young man, and not affluent, his uncle William, dying, left him the small family estate of Long-Calderwood. We all know of the unhappy misunderstanding that existed between Dr. Hunter and his brother John. Dr. B. felt that he owed this bequest to the partiality of his uncle, and made it over to John Hunter. The latter long refused; but, in the end, the family estate remained the property of the brother, and not of the nephew of Dr. Hunter."

Mr. Wardrop relates several instances of generosity on the part of Baillie.

"A young lady who was suffering severely from a pulmonary complaint, asked his advice, and he recommended her to spend the winter months in a milder part of the country. He found that her circumstances would not admit of her trying this last resource to regain her health, and, to enable her to do so, he instantly gave her an adequate sum of money."

"A lady, whose rank in life was far above her pecuniary resources, had an illness, when his attendance became important, and during which he regularly took his usual fee, until it was no longer necessary; he then left in a bag the whole amount of what he had received, offering to the lady, as an apology, that he knew that, had he once refused to take his fee during his attendance, she would not have permitted him to continue it."

The leading features of his character have been described as consisting of simplicity, singleness of heart, and ingenuousness, not at variance, but in strict accordance with true wisdom. Few members of the medical profes-

sion have claims to be considered equally disinterested, fair, candid, and generous. Sir Humphry Davy, Sir H. Halford, and others, have recorded their opinions of the character of Baillie. He has been designated as a practitioner "timid and sceptical of the influence of medicine in many diseases, to a very blameable extent." I cannot subscribe to this opinion from the small portion of his practice I have witnessed, and the conclusion at which I must arrive from a perusal of his papers. Mr. Wardrop has, I think, given the true answer to this charge in the following passage:

> "In the practical part of medicine, which in its application to individual cases may be said in many respects to be conjectural, the more a man advances in years, the more does he find how limited has been his knowledge, and how much he has still to learn. No one seemed more aware of this than Dr. Baillie; and I have frequently observed this superior knowledge of his art lead to the remark, that his practice was inert; for when he perceived certain and irremediable changes in disease, or when they had a fatal character from their commencement, he would merely attempt to palliate, whilst a practitioner not possessing his accurate knowledge, would have made fruitless efforts to cure the disease."

No man possessed a more extended circle of friends of all ranks of society than Dr. Baillie. Of the high regard entertained for him by all the members of the royal family, I can confidently speak. He was peculiarly qualified for the enjoyment of private life. His manners were exceedingly mild, very conciliating, and totally unaffected. He was, indeed, admired and beloved by all who knew him intimately. His amiable manners and disposition ensured to him the good-will of every one who had the happiness to enjoy his society. His assiduity and his moral deportment entitled him to the regard and respect of the whole profession. He had no great wit, nor was his talent for humour at all remarkable; but he delighted to pass his leisure moments (if such they can be called) in the society of a few chosen friends. Of a club which, though considered as scientific was more to be regarded as convivial, Dr. B. was a member, and gave very regular attendance. This club was originally established by Dr. Russel, the author of the History of Aleppo, Physician to St. Thomas's Hospital, &c., and the members of which were (for from the death of Baillie, and the loss of others, it gradually decayed, and is now extinct) Dr. Baillie, Sir G. Blane, Bart., Sir B. Brodie, Bart., Sir A. Crichton, Mr. Coleman, Dr. Cooke, Sir A. P. Cooper, Bart., Dr. Fordyce, Mr. Green, Dr. Holland, Sir E. Home, Bart., Sir J. M'Grigor, Bart., Sir P. Macgregor, Bart., Mr. J. C. Moore, Dr. Paris, Dr. Roget, Dr. Russel, Dr. Somerville, Mr. Thomas, and Dr. Wells.

The Portrait which accompanies this Memoir is from a Picture by Mr. Hoppner, R.A., in the possession of Dr. Baillie's sister, Joanna Baillie, "whose genius is sufficient to shed a lustre on all her race," and to whom I am proud to acknowledge my obligations for the permission to engrave so admirable a likeness of her distinguished brother.

JOHN BARON, M.D. F.R.S.

ETC. ETC. ETC.

"Æstimatio causæ sæpe morbum solvit."—CELSUS

THE subject of this memoir was born at St. Andrew's, on the 26th of May, 1786. His father, who was professor of rhetoric and logic in that university, was a learned and able man, and associated with all the distinguished individuals who at that time adorned the science and literature of Scotland. Among that number no one was more conspicuous than Lord Kaimes, with whom he lived on terms of the most confidential intercourse and friendship. His lordship succeeded in reviving the Philosophical Society of Edinburgh, originally established by the celebrated Maclaurin. This Society, of which Mr. Baron was a member, in a few years, at the instigation of Principal Robertson, merged in another on a more extended plan, and was incorporated by a royal charter, under the name of the Royal Society of Edinburgh. Of this Society, Mr. Baron was an original member. He published an Essay on the Mechanical Principles of the Plough; A History of the Colonization of the Free States of Antiquity, applied to the Contest between Great Britain and her Colonies; and, A History of the Political Connexion between Great Britain and Ireland. The two latter works were published without the author's name. The former attracted a great deal of notice, both in England and on the continent, and drew forth several replies. At the time of his death, he was engaged on a History of the Literature and Philosophy of Rome; but this work, not having received the author's final revision, was not published.

JOHN, who was his second son, went to school at St. Andrew's, where he early distinguished himself among his fellows by his quickness and assiduity. He entered the University there when he was only about thirteen years of age. His studies embraced the classics, logic, mathematics, &c. He likewise attended to some branches of natural history, preparatory to his education as a physician, for which he was ultimately destined. In furtherance of this plan, he was removed to the University of Edinburgh in 1801, being then in his fifteenth year. Shortly after his appearance there, he attracted the notice of the Senatus Academicus, and of many of his fellow-

students, by his conduct during an occurrence which took place in the anatomical theatre. Many of my readers may recollect the absurd and boyish habit by which the pupils used to testify their approbation or disapprobation of persons or things. It consisted in making a peculiar sound with the feet on the floor, and was commonly called *ruffing*. This sound invariably saluted the ears of a remarkably tall and stout Irishman, of the name of Bulkeley, the instant he came within sight of the persons who thus delighted in annoying their neighbours. His appearance was singular, and all eyes were instantly turned towards him. His good nature, which was really great, became at length exhausted, and he resolved to inflict summary chastisement on the offenders. With this intention, he deliberately walked through the centre of the theatre, and immediately applied his large fist to the persons of the three culprits. This infliction they bore the first day with very extraordinary patience. They brooded, however, over their punishment, and resolved on vengeance. The next day they planted themselves opposite the door of the theatre, and immediately commenced their insulting noise on the approach of the Irishman. He instantly recognized the persons, whose noses and ears tingled from the rough usage which they had experienced the day before. Mr. Bulkeley, without any hesitation, proceeded to administer a second application of the same remedy. He approached his antagonists, who, starting from their seats, with one consent furiously assailed him with bludgeons. The battle raged for some time over the benches. Young Baron, who was at the most remote part of the theatre, shocked to see three against one, immediately made all haste to assist the Irishman. He had scarcely reached the scene of action before the combat assumed a new character. The principal assailant pulled a pistol from his pocket, and attempted to shoot Mr. Bulkeley. He, on seeing the weapon, behaved with extraordinary gallantry and courage: he exposed his whole body, exclaiming at the same time, "Fire, you scoundrel!" Without a moment's delay, Baron threw himself on the culprit, forced him to his seat, and prevented the threatened mischief.

This incident created a very considerable sensation, both in the University and in the city. Baron was required to give evidence before the Senatus Academicus, when it was ascertained that the pistol was loaded with ball, that another was in reserve, and that nothing but his prompt interference had prevented the most frightful consequences. The offender was expelled from the university. Baron's conduct on this occasion gained him favour in the eyes of many of the professors. He received much kindness from Dr. Monro, senr. who, at a subsequent period, offered him an appointment to India; which he declined. His fellow-students likewise

were not unobservant of his character, as he received at their hands one of the greatest honours they can bestow, having been elected one of the Presidents of the Royal Medical Society, in the year 1804.

In December 1803, he had the misfortune to lose his father. This occurrence was most disastrous in every way, and imposed upon him a great weight of responsibilities and duties, which much interrupted his professional studies, and materially injured his health, always extremely delicate. He contrived, however, to prepare for the press and edit his father's lectures, which were published in 1805. He likewise so assiduously applied himself to his own more immediate pursuits, that he was enabled to pass through the necessary examinations, preparatory to his taking his degree, which he received in July 1805, having scarcely completed his nineteenth year. The subject of his thesis was "De Nutritionê Fœtûs."

The impression made upon his mind by the death of his father, combined with other sources of disquiet, so weighed upon him, that he made an attempt to gain an appointment in some of the armies then fighting against Napoleon; but the battle of Austerlitz put an end to the project, by terminating the war. He continued to prosecute his studies at Edinburgh during the winter of 1806. In the autumn of that year he was requested to go with a gentleman to Lisbon, who was about to proceed to that place for the recovery of his health. He left Lisbon a short time before the French invasion, and returned to England in the summer of 1807. And it was resolved, in 1808, that he should endeavour to settle himself in practice. In pursuance of this plan, he went to London, where he was introduced to Dr. Jenner by his friend Dr. Maton; which event he alludes to in the following interesting manner.

"I cannot refer to this and many other favours conferred upon me by this distinguished and most estimable physician, without dwelling for a moment on the consequences of that introduction. To me it proved one of those leading and influential events, which colour all the subsequent ways of a man's life. I was about to commence practice: all the world was before me. In seeking the acquaintance of Jenner, I was impelled mainly by a desire to do homage to a man whose public and private character had already secured my warmest admiration. I little thought that it would so speedily lead to an intimacy, and ultimately to a friendship, which terminated only at his death, and placed me in a relationship to his memory that no one could have anticipated. The greatness of his fame, his exalted talents, and the honours heaped upon him by all the most distinguished public bodies of the civilized world, while they made me desirous of offering my tribute of respect to him, forbade the expectation of more than such an acknowledgment as a youth, circumstanced as I was, might have expected. I soon, however, perceived that I had to do with an individual who did not square his manners by the cold formality of the world. He condescended as to an equal; the restraint and embarrassment that might naturally have been felt in the presence of one so eminent, vanished in an instant. The simple dignity of his aspect, the kind and familiar tone of his language, and the perfect

sincerity and good faith manifested in all he said and did, could not fail to win the heart of any one not insensible to such qualities. Though more than twenty years have elapsed since this interview took place, I remember it, and all its accompaniments, with the most perfect accuracy. He was dressed in a blue coat, white waistcoat, nankeen breeches, and white stockings.* All the tables in his apartment were covered with letters and papers on the subject of vaccination, and the establishment of the National Vaccine Institution."

Dr. Baron was also in constant intercourse with Dr. Baillie, who took much interest in his welfare, and selected Cheltenham as the place at which he should commence practice. While living there in the autumn of 1808, he received a letter from Dr. Baillie, announcing the death of Dr. Roberts, one of the physicians of the Gloucester infirmary, and advising him to offer himself as a candidate for that situation. He willingly followed that advice, and was without opposition elected to that office early in 1809. This appointment was in a great degree due to the warm-hearted interference of Dr. Baillie. His recommendation, which was couched in the most cordial and friendly terms, immediately enabled him to occupy an important public station, and to acquire the friendship and regard of many of the most influential families of the district.

Dr. Baron laboured very hard in his public duties. His youth, being little more than twenty-two years of age when elected to the infirmary, and his inexperience, made him feel very deeply the responsibility of his situation. He recorded almost every case with great accuracy, making daily reports and observations. He took likewise every opportunity of pursuing the study of pathological anatomy, for which the infirmary afforded him ample means.

At a very early age he projected a work on mental pathology, and printed an outline of his design. He thought that the consideration of human nature as a whole, which had long before been recommended as a branch of knowledge fit to be cultivated by itself, still demanded much elucidation. He intended to attempt to trace the sympathies and concordances between the mind and body, which being mixed cannot properly be assigned to the sciences of either.† He collected many materials for this purpose; but his increasing private practice, and his other studies and occupations, compelled him to relinquish his intention.

In 1811, he endeavoured to embody the whole professional influence in the district in which he lived, in favour of vaccination. With this intention he drew up an address, which was signed by a great number of physicians

* We are grateful to him who told us that Milton wore large buckles; and that Washington broke in his own horses; and in some future day the curious reader may be thankful for such particulars descriptive of the habits of Jenner.

† See Bacon on the Advancement of Learning.

and surgeons, expressive of their unbounded confidence in the practice, and of their determination to discountenance small-pox inoculation in every possible way. The colleges of surgeons, both of London and Dublin, at a subsequent period, adopted the principle of the "Gloucestershire Vaccine Association," and recommended all their members to act upon it.

At this period, likewise, he was anxiously engaged in promoting the establishment of the Lunatic Asylum at Gloucester. He paid unceasing attention to the erection and completion of the building, which after many delays was opened for the reception of patients in 1823. On that occasion he was under the necessity, in consequence of his bad health, and numerous occupations, (having then, in addition to his other duties, undertaken the labours which devolved upon him in consequence of the death of Dr. Jenner,) to decline the appointment of physician to this institution, but he continued his efforts as a member of the managing committee, and became consulting physician; which appointments he still holds. Amid these occupations, his private practice was rapidly extending, and though often subdued by long and distressing sickness, he pursued his professional and other studies with unceasing ardour.

In 1817 he published, in the eighth volume of the Medico-Chirurgical Transactions, the "History of a case of Rupture of the Brain and its Membranes, arising from the Accumulation of Fluid in a case of Hydrocephalus Internus." This is altogether a very remarkable case. The head of the child at three months had attained a circumference of twenty-nine inches, and the bones of the skull were separated from each other to the greatest possible degree. The circumference did not further enlarge, but a swelling occurred over the posterior fontenelle, which in a week acquired the size of a goose's egg. The swelling was found one morning to have become much softer and smaller, and a dribbling of water had taken place from the urinary organs to a very great extent. This continued during three days and nights, and with this the bulk of the tumour and whole head was so much reduced, that "the skin fell in wrinkles over the child's forehead, so as actually to cover the eyes." This flow continued during nearly two months, when it diminished, and the head began again to enlarge, and the swelling on the top to reappear. The size of the head exceeded that it had before attained. A watery discharge, tinged with blood, was now seen to ooze from the nostrils and mouth, and this continued for three days, at which time the swelling had vanished, and the bulk of the head was much smaller. The discharge from the nostrils continued from this time for a whole year, and the fluid never again accumulated in the external sac. The child continued to eat well to the last, and the bowels were reported

to be natural in their action. She was sensible to external impressions, but never made any attempt to articulate. Dissection of the case afforded an explanation of the phenomena.

In 1819, Dr. Baron's "Enquiry illustrating the nature of Tuberculated Accretions of Serous Membranes, and the Origin of Tubercles and Tumours, in the different textures of the Body," made its appearance. The subject of this work had occupied a great deal of his time and attention from the commencement of his practice. During the whole of this period he was on terms of the closest intimacy with Dr. Jenner, and some of the pathological views which it unfolds were the result of communications with this distinguished man. In 1822 he published the "Illustrations of the Enquiry." Both the "Enquiry" and the "Illustrations" were translated into French by the celebrated Madame Ve Boivin.

The great importance of the serous membranes, and their intimate connexion with the principal organs of the body, on which life may be said chiefly to depend, is universally admitted. An inquiry, therefore, into the morbid lesions to which they are occasionally subject, cannot fail of interesting the physician and the pathologist. In this work, Dr. B. makes us acquainted with a serious chronic affection, of an alarming nature, which, perhaps, it is out of the power of medical science at the present day to remedy, but which it may be possible, in its early stages, to control or subdue. To Dr. B. we are certainly indebted for the first systematic account of it, although it had been alluded to by ancient authors. Dr. B. gives several instances of this disease affecting both sexes and all ages, and he is naturally led to examine into the nature of these tuberculous growths, and to propose some original views upon this subject, to explain the phenomena which present themselves in these cases. This is unquestionably the most correct mode of obtaining medical knowledge: practice and pathology here go hand in hand, and assist in elucidating each other, for mutually they crave each other's aid—

"alterius sic
Altera poscit opem res." HORAT.

Dr. B.'s object is to show the importance of the lymphatic system, in which many chronic and cachectic disorders date their primary condition—that the inflammation attendant upon these cases, which he has so well described, follows the tuberculous condition to which the agglutination of parts is to be attributed. The origin of tubercles, tumours, and scirrhous disorganizations, is certainly involved in much obscurity, and the profession is under great obligation to Dr. B. for the attempt he has made to unravel the mystery. It appears to me that the subject has not obtained that

degree of attention from the medical public to which it is justly entitled. The difficulty of the investigation may perhaps afford the solution of this neglect. "In the eyes of some pathologists, (says Dr. B.) the powers of inflammation are unlimited. It forms, by the aid of coagulable lymph, cysts and tumours, and all the varieties of diseased texture, that dissection constantly exposes to our view." That close observer, Bichat, was even led to believe the tuberculated affection of the serous membranes as a consequence of inflammation; but upon more mature consideration he was disposed to regard it as probably *une affection propre à ces membranes, comme les éruptions miliares le sont à la surface cutanée, comme les aphthes le sont aux surfaces muqueuses.* But the presence of tubercles, it is to be borne in mind, is not confined to serous membranes; they are to be found in perhaps every other texture of the human body. Their origin, according to our author, is connected with some of those elementary parts of our frame, which are diffused through the body, and enter into the composition of every organ. This is the case with the sanguiferous, and so it is with the nervous and absorbent systems. Since, then, the origin of tubercles is not to be attributed to inflammatory action, whence are they derived? Dr. B. says, from Hydatids. It is due to Dr. B. to observe, that, to avoid confusion and misapprehension, he subsequently restricted the use of the word Hydatid as much as possible to its etymological sense. His great object, from the first, was to trace the origin and progress of adventitious growths, especially those which have a vesicular or encysted character; and to show that a large proportion of malignant disorganizations have their commencement in bodies of this description; however imperfectly they may indicate this original character at their termination. The occasional existence of these vesicles or cysts in every part of the body is well known, and Dr. B. conceives, that to them is to be attributed many morbid growths, varying in their nature according to the variety of transmutations they have undergone, and the nature of the part in which they chance to be seated. This doctrine must be stated in his own words:

"These changes are progressive, but not uniform; and it is only in the larger hydatids that they can be accurately traced. They commence with an opaque spot, which advances, in some instances, with rapidity; in others, more slowly; and ultimately renders the coats thicker, and destroys their contractile power: but no regularity is observed in this process, and the morbid changes proceed in various ways. The conversion is sometimes into a substance resembling cartilage, possessing both its density and colour; again, signs of ossification are seen in the coats of the hydatid, while its contents retain their original character; but more frequently the latter are changed, and assume a vast variety of appearances. Most commonly a pulpy kind of substance, resembling scraped cheese in appearance and consistence, is met with. Sometimes a fluid resembling cream is found; at other times, it is dark-coloured, like a mixture of blood and water; or it may be

transparent and glairy, like the white of an egg. With these, gritty or earthy concretions are frequently found.

"The periods at which these transformations take place, are very uncertain. They may commence in a few days after the hydatid is brought into existence; or they may not occur at all, the original structure continuing for many years. The first position was demonstrated by experiments instituted by Dr. Jenner, on some very young animals, particularly rabbits. He found, that by feeding them with some kinds of food, the liver soon became studded with hydatids; and by examinations, at different times, he was able to trace the gradations, already mentioned, from the first inspissation of their contents, and thickening of their coats, to their final conversion into tubercles of varying size and hardness. In the same liver, he has also repeatedly found every gradation, from compact caseous-looking matter, to the limpid contents in their first stage. Small hydatids sometimes unite in clusters, and ultimately form what has been called a scirrhous tumour. In this case, though they may not be of a greater size than a pin's head, yet they go through the same changes as the larger ones. At first sight, tumours which are formed in this way, seem to have a uniform texture, but, on close inspection, it will be found to be granulated, and that it has been formed in the way just described."

The tuberculated disease of the peritoneum, pleura, &c. Dr. Baron refers to the absorbent rather than the sanguiferous system, and suggests that as the imflammation is a consequence rather than a cause; "our hopes of being able to avert or cure such maladies, must rest upon some other means than those which are merely calculated to subdue vascular action."

In the second part of Dr. Baron's work, which relates to the affection of the pleura, he enters further into the consideration of the connexion between hydatids and tubercles, and the formation of tumours. He thinks it possible that all tubercles, wherever situated, and of whatever substance composed, were at the commencement small vesicular bodies, with fluid contents; but how minute they may have been at their origin, or what circumstances occasioned their transformation, he thinks it impossible to decide upon. But to these *changes* in hydatids, certain tubercles (says he) owe their existence, and on the *size* and *relative position*, and *structure* of the *tubercles* which are so *formed, depend* the *characters* of *many* of the most *formidable organizations* to which the human body is exposed. The author goes on to trace the various forms under which these appearances may be observed, and thus passing from one stage to another, at length produce a condition of parts bearing no degree of similarity whatever, to the original state from which it sprung. The varieties are well shown, and merit a careful examination. The formation of tumours is a subject of great importance, and of great difficulty. The limits of these memoirs will allow me only to refer the reader to Dr. Baron's works for the illustrations of this department of pathological science.

The "Illustrations" treat of the progress of pulmonary tubercle—of tuberculous diseases in the inferior animals—and on the treatment of tuber-

culous diseases. In the second division, Dr. B. has, with great patience and ingenuity, illustrated the connexion between hydatid and tubercle, and shown their co-existence in the same animal in various instances. This branch of the inquiry is highly deserving of further research, and it would doubtless tend to explain many circumstances which at present require more elucidation.

The last chapter of the "Illustrations" contains some remarks on the use of iodine, which have been amply confirmed by subsequent experience. Dr. Coindet's memoir, mentioning the use of that remedy in bronchocele, was published in 1820. It struck Dr. Baron that this medicine might be employed with success in kindred disorganizations in other parts of the body. He acted upon this principle, and gave some very striking examples of its usefulness in various diseases. He continued to pursue the investigation, and in 1829 published, in the Midland Reporter, "Notes on the Use of Iodine," which afforded still stronger proofs of the power of the remedy in ascites, physconia hydatidosa, enlargements of the liver, &c.

Very shortly after the publication of the "Illustrations," he had the unspeakable misfortune of losing his distinguished friend Dr. Jenner, an interesting account of which is recorded in the second volume of the Life of Jenner. Not many months after this occurrence, he had to witness the gradual decay and dissolution of another most eminent friend, the late Dr. Baillie, who came from London to his seat in Gloucestershire, where he terminated his most exemplary and useful life. Dr. Baron was in constant attendance upon him during the whole of that period.

Immediately after Dr. Jenner's death, he received a formal application from his trustees to undertake the duty of biographer. The labour necessarily connected with such an office, made him hesitate; but his veneration for the name of Jenner overcame his reluctance, and after some delay, the papers were placed in his hands. When he began to examine them, their number, their variety, their intricacy, presented such a formidable obstacle, that he felt assured, from his public and private occupations, and his then state of health, that it could not be overcome. Under these circumstances, he resolved to relinquish the task, however gratifying it would have been, had he been permitted to fulfil it. The writer of this memoir has heard him express his deep regret at the difficulties with which he was surrounded. But at this period an occurrence took place, which enabled him ultimately to surmount the greater part of them. He was visited by one of his oldest and most affectionate friends, Richard Gamble, M.D., who had been associated with him as clinical clerk to Dr. Duncan, senior, in Edinburgh, and had been long one of the physicians in the Fever Hos-

pital in Dublin. This learned and excellent physician entered into his feelings with the kindest ardour, and cheered him by his presence and his counsel, thus inducing him to resume and prosecute his labours among the Jennerian papers. Gamble took up his abode in his house, and devoted his whole time to the verification of those points which were necessary to the execution of the work. Assistance of this kind was indispensably necessary, for Dr. Baron was constantly compelled to take long and arduous professional journeys, and perform his public duties, and could never command one day for uninterrupted application. His studies were chiefly carried on while travelling, his carriage being always loaded with papers, and almost all the notes for the composition of the work were written at that time. He likewise had the help of another much valued friend, the Rev. John Webb, of Tretire, whose services he mentioned in the introduction of the first volume, with feelings of the utmost gratitude.

Of the biography of Jenner, I have already spoken in the memoir of that truly illustrious man. Of its merits there can be but one opinion entertained; its fidelity demands it, and no one can peruse any portion without being struck by the affectionate attachment, so strongly manifested by the friend and biographer. No one surely was better qualified to estimate the opinions of Jenner, from the possession of a kindred spirit, and a deep sense of the importance of the profession, of which Dr. B. is so distinguished an ornament. To the physiologist I would strongly recommend an attentive perusal of chapter five, which treats of the diseases similar in their nature, which have affected man and brute animals in common, from the earliest periods of history. The study of epizootic diseases, and the relations they may have to the epidemic disorders affecting the human species, have been very much neglected. The works of Ramazzini, Layard, Bourgelat, and others, may be consulted with much advantage on this subject.

In 1828, Dr. B. published "Delineations of the origin and progress of various changes of structure, which occur in Man and some of the Inferior Animals, being the continuation of works already published on this subject," 4to., with coloured plates.

The design of this work is to illustrate the principle laid down in the former publications, and to mark the first indications of disorganization in the animal frame, and to trace these through their gradations up to their final change. The possibility of obtaining the earliest species of evidence is, however, of rare occurrence; hence Dr. Baron takes the advantage of viewing disease in the inferior animals, to elucidate this branch of pathological science. He made many experiments to demonstrate the mode by which tubercles are formed. These require to be stated in detail, and I

must, therefore, refer the reader to the work itself; they will amply repay him the trouble of perusal, and afford matter illustrative of the origin and progress of disease, and the objects of cure which every rational practitioner ought to entertain. The liver is the best organ for making these researches, for therein the various steps of disorganization are most conspicuous and most easy of production. The plates which accompany this work are very beautifully executed.

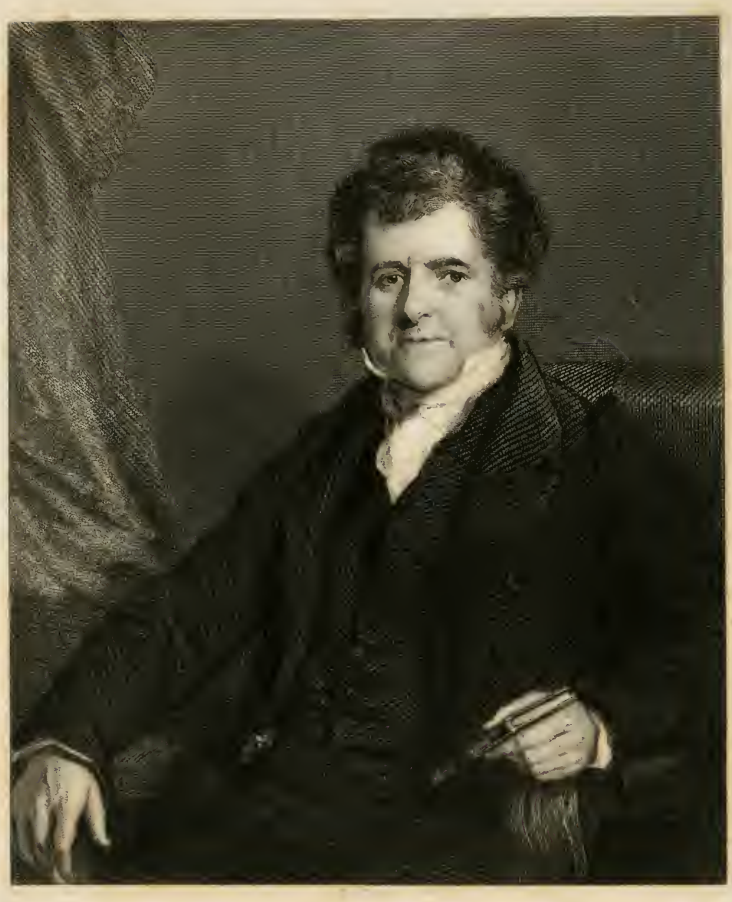
In the same year, Dr. Baron published, in the first volume of the Medical Gazette, an account of the case of an individual who had accidentally swallowed a great number of pins. Forty-three were extracted from different parts of the body during a period of nearly four years.

In 1829, Dr. Baron was requested to become the President of a Natural History Society, then just formed in Gloucester. On his acceptance of this office, he delivered to a very large assembly an inaugural discourse, an abstract of which was printed in the Gloucester Journal for Aug. 1st. In May 1831, he published in the Midland Medical and Surgical Reporter, "Contributions to Pathology." These consist of the description of a very large abdominal tumour, with displacement of the stomach. Rupture of cysts into the alimentary canal, and the cavity of the abdomen. Abscess of the liver passing through the diaphragm and lungs." The displacement of the stomach was occasioned by the extraordinary magnitude of the tumour, which consisted of several cysts. To diminish the size, and facilitate the examination of the body after death, a trochar was passed into apparently the largest cyst, but no fluid followed, and, upon inspection, the instrument was found to have passed into the empty stomach, for this organ was removed from its natural situation to the right side, its great curvature extending in a line from the margin of the ribs towards the ileum. This patient had been more than once tapped on the other side. The circumstance should be recollected by the surgeon. The weight of the tumour, including both its solid and fluid contents, amounted to upwards of 90lbs.!

In 1832, Dr. Baron became exceedingly ill, mainly in consequence of his great mental and bodily exertions. Having often before continued to labour while in this state, he determined to persevere, especially as the cholera was then threatening our shores. He took a very active part in the committee appointed to make preparations to meet that most formidable disease, and he himself very nearly fell a victim to it, almost immediately after its appearance. In his case the asphyxia was the most prominent symptom. He went to the Isle of Wight for the restoration of his health, but the recovery was slow and incomplete. In the autumn he was attacked

with influenza, and had a constant succession of seizures of this kind during the winter, and even up to the summer of 1833. These severe illnesses proved to him, that he could not continue to labour as he had done, in his public and private practice at Gloucester; the latter, from the length of his journeys, requiring great bodily strength. He, therefore, resolved to change his abode to Cheltenham, where he finally fixed himself in the summer of 1833. He resigned his office of Physician to the Infirmary on the 21st of February 1833, upon which a most flattering vote of thanks was unanimously passed by a special general meeting of the governors, and transmitted to him by the Bishop of Gloucester, the President of the Institution. In the autumn of that year, he attended the meeting of the Provincial Medical and Surgical Association at Bristol, and brought forward a plan for establishing a benevolent fund for the relief of distressed medical men and their families. The plan is deserving of notice. It is neither a benefit society, nor an assurance club,—it is, strictly speaking, a benevolent or charitable institution, founded and promoted for the express purpose of assisting professional men, when struggling under the pressure of disease or other calamities. This fund has not yet been supported as it deserves, but it has done much good already, and doubtless will ultimately accomplish more.

The last work from Dr. Baron's pen, just published, consists of the continuation of the biography of Jenner. It is sufficient to say, that the second volume is worthy of the first. The two comprise a most perfect and satisfactory statement of all the circumstances connected with the discovery of vaccination, a clear and succinct view of the disease, and the most incontrovertible evidence of its prophylactic powers. It is the production of an enlightened and scientific mind—of a man of original views—of one who has laboured zealously in his vocation to extend the boundaries of science, by deep researches into pathology. In the enjoyment of an extensive practice, both public and private, he has been enabled to apply the doctrines he has promulgated, to the relief of his fellow-creatures; and he most deservedly carries with him the respect and esteem of his professional brethren. Dr. Baron is a member of many scientific institutions: he was elected a Fellow of the Royal Society in 1823, and an honorary Member of the Medical and Physical Society of Calcutta in 1829.



Richard Wright.

RICHARD BRIGHT, M.D. F.R.S.

ETC. ETC. ETC.

PHYSICIAN EXTRAORDINARY TO THE QUEEN.

"Studio fallente laborem."—Horat.

The pursuits of the physician in alleviating the sorrows and sufferings of the distressed, and oftentimes in the higher office of "ministering to a mind diseased," are such as cannot fail to give sincere delight to a liberal spirit. To feel this happiness in its full force, requires, on the part of the practitioner, an extended knowledge of his profession. To obtain this, he must be well acquainted with various sciences, and ardently seek aid from every source of information. Sir William Temple tells us, that "it is certain the study of physic is not achieved in any eminent degree, without very great advancements in other sciences, so that, whatever the profession is, the professors have been generally very much esteemed upon that account, as well as of their own art, as the most learned men of their ages, and thereby shared with the two other great professions, in those advantages most commonly valued, and most eagerly pursued; whereof the divines seem to have had the most honour, the lawyers most money, and the physicians the most learning." The subject of the present memoir has not only exerted himself with the most indefatigable ardour, to obtain all requisite knowledge of his profession; but has also been most actively engaged in communicating that information to others, either through the medium of lectures, or the assistance of the press. Nor have the fine arts been deprived of their fair portion of utility, in contributing to this important end. The illustrations of morbid anatomy in Dr. Bright's several works, are faithful representations of the various conditions of diseased structure, and show forth, most conspicuously, the many ills which "human flesh is heir to."

Richard Bright, M.D., is the third son of Richard Bright, Esq. of Ham Green, in the county of Somerset. He was born in Bristol, which city his eldest brother represented in three successive parliaments. The family is of old and respectable standing in Herefordshire, and its present venerable representative, to whom the manor and estate of Brockbury, in

that county, have descended through many generations, is the lineal descendant of one of the best, most learned, and most eloquent men, of a pious, and learned, and eloquent age:—Henry Bright, of Brockbury, D.D., who lived in the reigns of Elizabeth and James.—For him, his old friend Joseph Hall, the divine and the poet, and successively Dean of Worcester and Bishop of Exeter and Norwich, composed a beautiful epitaph, still inscribed on his monument in the Cathedral of Worcester; and to his acquirements and usefulnesss, Fuller,* and Antony Wood,† have left most honourable and enduring testimony.

After having passed through the usual course of elementary education, first at a private school in his native city, and, afterwards, under a tutor in Exeter, he matriculated in the autumn of 1808, at the University of Edinburgh, where he resided in the house of the Rev. Robert Morehead, now Rector of Guisborough in Yorkshire, but at that time a clergyman of the episcopal chapel in Edinburgh, and in that office, the colleague of Mr. Alison, whose elegant work on taste has rendered him deservedly celebrated. During the first year, he devoted his attention exclusively to the general lectures delivered at the University, amongst which were those of Moral Philosophy and Political Economy, by Dugald Stewart; of Natural Philosophy by Playfair; and the Mathematical Lectures of Leslie, in the higher class of which, he, that year, successfully competed for the prize. In the session of 1809, he pursued the studies more immediately connected with his profession, and, besides attending the course of Chemistry by Dr. Hope, and the lectures on Anatomy by Dr. Monro, and on the Institutes of Medicine by Dr. Duncan, he availed himself of the excellent Anatomical course delivered out of the College, by Dr. John Gordon, whose premature death from fever, the profession had a few years after to deplore. In the summer of 1810, together with Dr. Holland, he accompanied Sir George Stuart Mackenzie to Iceland. The account of this interesting tour was published by Sir George in the following spring, to which Dr. Holland contributed an important chapter, on the literature and history of the country, also a chapter on government, laws, and religion, and another on the diseases of the Icelanders; and several descriptive passages were from the pen of Dr. Bright, who likewise wrote a General Sketch of the Zoology and Botany of the Island. On his return, he went to London, where he took up his residence within the walls of Guy's Hospital, living in the house of one of the officers of the establishment. At that time, Dr. Babington, and Dr. James Curry, lectured on the Practice of Medicine, Dr. Marcet and Mr. William Allen, and occasionally Dr. Babington, on Chemistry, Mr. Cline, and Sir Astley (then Mr.) Cooper, on Surgery. Mr. Cooper and Mr. Henry Cline, on Anatomy; Mr. Travers gave the Ana-

* Fuller's Worthies, vol. ii. p. 478. Edit. Nichols, 1811.

† Athenæ Oxon. by Bliss.—Fasti, vol. i. p. 237.

tomical Demonstrations, and Dr. Haighton lectured on Midwifery, besides giving a very elaborate and original course of Physiology. He remained at Guy's during two years, and during this period, stimulated by the inspiring energy of Sir A. Cooper, he acquired a taste for pathological investigations, and I have seen a coloured sketch made by him at that time, representing one of those granulated kidneys, which ten years afterwards became, in his hands, the subject of a most interesting inquiry.

In 1811, he read a paper on the strata in the neighbourhood of Bristol, before the Geological Society, to whose Transactions, in 1818, he also furnished a communication upon the "Hills of Badaeson, Szigliget, &c. in Hungary.

In 1812, he returned to Edinburgh, attended closely the lectures on the Practice of Medicine, by Dr. Gregory, and those of the other lecturers in the University, amongst whom were, at that time, Dr. Rutherford and Dr. Home on Clinical Medicine, Materia Medica, and Botany. He attended, also, the lectures of the Regius Professor, Dr. John Thomson, and of Dr. Andrew Duncan, who was the first in this country to deliver a full course on Medical Jurisprudence, in doing which, he drew largely from his stores of German literature. Dr. Bright took an active part in the discussions of the Royal Medical Society, of which he was chosen one of the Presidents, and where he read a paper on Retroversio Uteri, and another on Gangrene. He was also a Member of the "Speculative Society," an association which numbered amongst its supporters, a large proportion of those who have been most eminent at the Scotch bar, and some of the students who frequented Edinburgh for the purposes of general literature. He also attended a course of Natural History, more particularly devoted to Mineralogy, delivered by Professor Jameson, who, at that time, enjoyed a high reputation as one of the favourite pupils of the celebrated Werner, and used frequently to make mineralogical excursions with his class to the Pentland Hills, and the whole interesting neighbourhood of Edinburgh. On the 13th of September, 1813, he graduated, having written his thesis *De Erysipelate Contagioso*, in which he adduced may striking examples of the apparent communication of the disease.

It was at this time his intention to graduate likewise at Cambridge, and with this view he entered at Peter House, in which college his brother held one of the lay fellowships; but after having kept two terms, he found that it was now hardly compatible with his pursuits and objects, to devote the necessary time to the college discipline, and he never resumed his residence. In the winter he became a pupil at the Public Dispensary under Dr. Bateman, who was not only a man of great professional skill and knowledge, but was the chief authority of the day in eruptive diseases, and his excellent friend Dr. Laird, who was beloved by all who knew him. He now applied closely to the practical part of his profession, losing no opportunity of obtaining information, and looking with particular anxiety

to pathological inquiries. During a considerable portion of this time, he resided in the family of the Rev. Mr. Marsnet, a most respectable and high-minded French Abbé, that he might take advantage of his society, to improve his knowledge of the colloquial idiom of the French language; and the continent being now opened by the general peace, he went abroad in the summer of 1814. He visited Holland and Belgium, seeing whatever most interested him professionally, and, having passed through Frankfort and Leipsic, spent some months at Berlin, where he had the advantage of frequenting the practice of Horn at the hospital of La Charité, and of Hufeland, who then took great interest in an establishment of practical medicine of the nature of a large dispensary, which was named the *Polyclinique* Institution. He likewise made the acquaintance of Klaproth, and experienced the kindness and hospitality of Rudolphi, and of Heim, a man of peculiar and friendly habits, enjoying at that time the greatest reputation as a practitioner of medicine in Berlin. During his residence in the capital of Prussia, Dr. Bright lived in the family of a professor of one of the public schools, that he might read German with him in his leisure hours, and improve his power of conversing in the language. Leaving Berlin, he spent a short time in Dresden, and arrived at Vienna before the winter had quite set in. Although it was a period unfitted for pursuing professional objects, he took occasion to attend Hildembrand in his visits to the clinical ward, which formed a very striking part of the extensive general hospital. He also frequently followed the visits of Rust, and saw much of the practice of Beer, the celebrated oculist, both at his own house and at the hospital. He had likewise the pleasure of becoming intimately acquainted with Baron Jacquin, and with his aged and interesting father, whose name is so deeply associated with the progress of botanical knowledge, and who transplanted from the tropical climates a store of botanical treasures, to enrich the imperial conservatories of Schöenbrun. With Prochaska also, and the elder Franck, to whom the spread of clinical instruction in medicine owes more than to any individual, he became well acquainted.

Of matters which passed before him unconnected with medicine, at the interesting period of the Congress, Dr. Bright has preserved some record in his published Travels. Having spent the winter in Vienna, he proceeded in the month of March to Hungary, and felt obliged, though somewhat reluctantly, to shorten his journey in that country, from a wish to avail himself of an opportunity, which he had secured some time before he left England, of filling a vacancy in the duties of house-pupil under the justly celebrated Mr. John Pearson. He arrived at Brussels about a fortnight after the battle of Waterloo, and found so much matter of professional interest in the hospitals, that he was detained there some days beyond the time when he wished to reach London. He there fell in with his former preceptor and kind friend, Dr. John Thomson, with whom, through the

kindness of the military-medical officers, he had an opportunity of seeing all that was going forwards amongst the sick and wounded, both of our own and of the Belgian army, and the troops of Brunswick, as well as in the French hospitals, at a time when it was calculated that there were upwards of 20,000 sick and wounded in the city and suburbs of Brussels. Arriving in London, he devoted himself sedulously to the practical part of his profession, and, having completed the proposed period of study under Mr. Pearson, he resumed his attendance at the Public Dispensary, where he for some time discharged the duty of assistant physician.

In December, 1816, he was admitted a licentiate of the Royal College of Physicians, and shortly after was elected assistant physician to the London Fever Hospital, of which Dr. Bateman had hitherto been the sole physician; but which, on account of its recent augmentation, required an increase of the medical staff. His public labours were thus rather severe, and were varied and increased by attendance at Guy's Hospital as often as opportunity would permit; so that, although he had always entertained an intention of publishing some account of what he had seen in Hungary, it was not till 1818 that the work was accomplished.

In the midst of these occupations he was interrupted for several weeks by an attack of fever, which he caught at the Fever House during a very severe epidemic, and narrowly escaped with his life. In the autumn of 1818 an opportunity offered of again visiting the Continent, and, as he had yet scarcely laid himself out for private practice, after some consideration he determined to go. He spent several months in Germany, and passed by the Tyrol into Italy, returning through Switzerland and France. Shortly after his return to England in 1820, he took a house in Bloomsbury Square, and became a candidate for private practice. Having resigned his connexion with the Fever House, and retired from the Dispensary when he went to the continent, his public duties were now entirely confined to Guy's Hospital, of which he was elected assistant physician in the same year, and continued to discharge the duties of that office till 1824, when, on the retirement of Dr. Laird, he succeeded to the office of physician. In 1822 he undertook to give a course of lectures to the pupils of the hospital on botany as connected with Materia Medica, and this he continued in the summer months for three years. In 1823 he gave a course of clinical lectures in conjunction with Dr. Cholmley, which formed the commencement of that regular clinical course since continued in wards set apart for the purpose during six months of every session. In 1824 he took part in the lectures on the theory and practice of medicine with Dr. Cholmley, and, after lecturing together for three sessions, Dr. C. retired. During two or three sessions Dr. B. lectured alone, and afterwards associated with him Dr. Addison, with whom he still continues to deliver the annual course, and who are now jointly engaged in publishing a work on the "Elements of the Practice of Medicine," of which two Parts have already appeared.

It was about the year 1827 that the Royal College of Physicians began to act more liberally on the law which had always existed, but had been very seldom brought into use, enabling the President, with the consent of the college, to introduce annually into the body of the Fellows one from amongst the Licentiates; and the first step was made by the elevation of Dr. Babington. In the year 1832 this honour was conferred in the same way upon Dr. Bright; and the following year, being appointed the Gulstonian lecturer, he chose as his subject "The Functions of the Abdominal Viscera, with Observations on the Diagnostic marks of the Diseases to which the Viscera are subject." These have been printed in the London Medical Gazette. In 1836, when the old law of appointing the censors according to a certain rotation was done away with, he was chosen to that office, with Dr. Paris, Dr. Chambers, and Dr. Holland. In 1837 he was appointed to read the Lumleian lectures, which he did, choosing for his subject the Disorders of the Brain, and also during the present year giving to the college a descriptive account of the pathological collection of the late Dr. Matthew Baillie.

In 1827 Dr. Bright published a quarto volume of *Reports of Medical Cases, selected with a view of illustrating the Symptoms and Cure of Diseases by a reference to Morbid Anatomy.* These Reports are formed by an arrangement of cases of various diseases of the most important viscera. Upon these subjects Dr. Bright has put forth opinions as to some peculiar changes of structure observable in the several viscera, which opinions have been borne out and established by future investigations. Such are his statements relative to the dependence of a peculiar class of dropsies on disease and irritation of the kidneys; some observations on peculiar changes in the structure of the liver; and on the influence of the peculiar state of the mesenteric absorbents on the symptoms of phthisis. Chemical investigation has been well applied by Dr. Bostock in the elucidation of the condition of the secretions furnished by the kidneys and the liver, and the analysis given add much to the value and interest of this work. The changes in the structure of the organs under different conditions of disease are beautifully illustrated by engravings made under the author's immediate inspection. The volume consists of the relation of ninety cases illustrative of the subjects mentioned, to analyze which would be foreign to the intention of this work. I can only point out the contents, marking what is new, and directing the attention of the professional reader to the publication itself for the details. The work must be regarded as one of the most valuable contributions to morbid anatomy this country has ever produced.

Dr. Bright is entitled to the praise of having first pointed out the connexion of disease of the kidney in cases of dropsy, where the urine is found to be *albuminous*, and coagulable upon the application of heat and nitric acid. In these cases the liver does not betray any considerable marks of disorder, the condition of the kidneys would therefore appear to be the

primary cause of the dropsical effusion, whilst in other cases, where the liver has been found to be the seat of disease, the kidney has been unaltered in its structure, and the urine not coagulable by heat. This is indeed a most important discovery, and the treatment of various cases of dropsy must of necessity be regulated by a regard to the distinction. The morbid changes in the liver, and their consequent production of dropsy, in the opinion of Dr. Bright, appear to produce their effect by a general obstruction to the circulation through the branches of the vena portæ, and in this way to become the immediate cause of dropsical effusion. Some doubt may probably be entertained on this head, and it is certain that the effusion must not be referred to mechanical agency alone, for if this were to be esteemed the correct view of the subject in all cases of enlargement of viscera, dropsy ought to follow as a necessary consequence. This, however, is not the case, and pressure is therefore to be kept in view as one only of the causes able or likely to produce effusion by obstructing the course of the circulation. The morbid changes which take place in the structure of the liver, and the altered condition of the secretion of the organ, may perhaps be conceived adequate to the production of the effusion. Dr. Bright has not been inattentive to this, for he observes, that the changes which take place in the structure of the liver may fairly be expected to have much influence on the character of the bile; and partly with a view to illustrate the state of the bile relatively to the condition of the liver, and partly with a view to discover the nature of some of the changes to which the liver itself is subject, he solicited his friend Dr. Bostock to make some experiments on the constituent properties of the bile, the results of which are detailed in Dr. Bright's publication.

In 1831 Dr. Bright published a second volume of "Reports," in which he treats of the "Diseases of the Brain and Nervous System." He has divided the subject into three sections, under the heads of Inflammation, Pressure, and Irritation, according to the prevailing morbid condition by which they are characterized. Forty plates represent these affections, and constitute a most valuable series of pathological illustrations.

Among "General Observations on the Diseases of the Brain and Nervous System," Dr. Bright justly remarks, that many of the diseases of the brain and nervous system admit of little satisfactory illustration from anatomical research; and that we are therefore induced to consider them as purely functional, though experience shows us that this view has often been the unintentional cloak for ignorance, and has materially retarded investigation. The principal phenomena of cerebral and nervous disease Dr. B. ascribes to inflammation, interrupted function, and irritation. To these he adds *Inanition*, or deficient circulation, as a very powerful cause of many derangements in which the brain and nervous system bear a prominent part; and it shows itself in that general want of power which depends on an inefficient supply of nourishing and stimulating blood to the brain.

Under the several heads referred to, Dr. B. communicates a most valuable body of practical information, to which the practitioner can never refer without receiving instruction. His remarks on the communication of erysipelas, (already alluded to in his thesis,) and the various modes of treating this disease, are highly important. Headache he ascribes to a state of congestion in the vessels of the brain.

"That this symptom (says he) depends on various causes, and that it is connected with different conditions of the circulation in the brain, is not improbable; but in by far the majority of cases the actual condition of the vessels at the moment of the existence of headache is a state of congestion. Exhaustion from fatigue—exhaustion from the loss of blood—exhaustion from over excitement by mental exertion or bodily excesses,—all tend to produce a state of debility in the vessels of the brain which favours congestion: and these are the more ordinary circumstances under which headache occurs. The headache which follows apoplectic and epileptic attacks, that which torments the hysteric female, and that which so often attends on the dyspeptic stomach,—all probably depend on cerebral congestion variously modified and combined, according to the causes which give rise to it, or to the peculiar state of the constitution in which it occurs."

Cases of chronic hydrocephalus give little ground for the adoption of any mode of treatment prospectively beneficial. Puncturing of the membranes, and evacuation of the fluid, have in some instances been attended with temporary relief; but in general such is the condition of the brain (as has been fully shown in the cases upon record where *post mortem* appearances have been detailed) as to forbid any sanguine expectations of advantage from any operation that might be proposed. Dr. Bright has given references to the principal cases in which puncture has been made, and he has detailed one of the most remarkable cases of chronic hydrocephalus on record, the subject of which was well known to me at the Borough hospitals. The case was that of James Cardinal, who died in 1825, being then twenty-nine years of age. He was hydrocephalic from birth, and his head was of an enormous size.

"On carefully taking the different measurements of the skull, it was found that its circumference at the part through which it was divided, and which was, as nearly as possible, its largest diameter, was 32¼ inches. The distance from the articulation of the jaw on one side, to the corresponding point on the other, measured over the vertex, was 21 inches: from the insertion of the ossa nasi into the frontal bone, to the posterior margin of the foramen magnum, 23⅜ inches. The long diameter, from the projection of the os frontis to the projection of the os occipitis, where the skull was divided, was 10½ inches, including the thickness of the skull; and one inch to the right of that line was eleven inches: the transverse diameter, measured across the foramen magnum, was 9 inches."

So great was the quantity of fluid contained within his skull, that, when a child,

"if a candle was held behind his head, or the sun happened to be behind it, the oranium appeared semi-transparent; and this was more or less evident till he attained his fourteenth year. Fits of an epileptic character came on at about the age of twenty-three, and since that his health has rather suffered." "He was

near-sighted, but heard with remarkable acuteness; his taste was perfect, and his digestion good. His mental faculties were very fair: he read and wrote pretty well, but if he read long, his eyes were apt to be weak and inflamed: his memory was tolerable, but it did not retain dates and periods of time; and it was stated of him that he was never known to dream. There was something childish and irritable in his manner, and he was easily provoked."

Upon examination after death, the brain itself was found at the base of the skull. The upper part was filled by the dura mater, forming a large bag, and containing six or seven pints of transparent fluid, and within the ventricles there was about another pint. The brain, by pressure, had undergone various changes of appearance, which have been well figured in Dr. Bright's work. The particulars of the case deserve an attentive consideration. The continuance of life during such a number of years, the enjoyment of comparatively good bodily health, and a considerable degree of intelligence, render the case very interesting. Dr. Bostock has made a minute examination of the fluid in cases of hydrocephalus, and has detected the presence of urea. The account is inserted in Dr. Bright's "Reports."

In the *Observations on the Deranged Action of the Kidneys, as it affects the Cerebral Functions*, Dr. B. has some very important information. The connexion between cerebral pressure and diseased action and organic changes in the kidneys had been often remarked; and Sir Henry Halford, in 1820, pointed out the frequent termination of *Ischuria renalis* in coma and apoplexy; and the subject has been further elucidated by Dr. Abercrombie and others. To no one, however, are we so much indebted for researches upon this subject as to Dr. Bright, who has pursued the inquiry in all its relations and connexions. The fruits of these are to be found in his work.

Dr. Bright has attempted a classification of hysteria, than which, perhaps, no subject is more difficult. Chorea he considers more the disease of males than females, "a chronic affection, often continued by habit, attended with no danger, but seldom admitting of a cure."

On the subject of hydrophobia, Dr. B. details some interesting cases. The nature of the disease is involved in great obscurity. From the absence of satisfactory morbid appearances, he is disposed to consider it as a functional disease, and therefore confidently to hope that means may yet be discovered by which it will be successfully combated.

This volume of "Reports" consists of more than 700 pages, and forms altogether a body of practical information reflecting the highest credit on the observation, penetration, and medical erudition of this learned physician.

Dr. Bright filled the office of President of the Medico-Chirurgical Society, and to the 18th volume of their Transactions he has contributed some *Cases and Observations connected with Disease of the Pancreas and Duodenum.* In the 19th Vol. he has *Cases and Observations*

illustrative of Diagnosis, where Adhesions have taken place in the Peritoneum, with Remarks upon some other morbid changes of that membrane. Every aid towards obtaining a correct diagnosis in the investigation of abdominal disease, is of importance, and this paper is, therefore, entitled to the attentive regard of the practitioner. The cases of deposit of adventitious matter upon the peritoneum, are not less worthy of attention.

In the year 1817, a laudable example was set by the professional men across the channel, of publishing reports of the principal cases occurring in the Dublin hospitals, and such more extended communications as might appear to be necessary to illustrate the Practice and Pathology of Medical and Surgical Science. A plan attended with such marked success, and affording such evident advantages, has, however, not until late been pursued by any other body of practitioners. A few individuals have meritoriously attempted to effect the same object, but they have not been able sufficiently to interest the profession solely by their own labours, nor, perhaps, to devote a sufficient portion of time to secure the regularity which such a task necessarily imposes. Dr. Andrew Duncan, jun. published *Reports of the Practice in the Clinical Wards of the Royal Infirmary of Edinburgh, during the months of November and December* 1817, *and January, May, June, and July*, 1818; and Mr., now Sir Charles, Bell, printed five parts of *Surgical Observations, being a Quarterly Report of Cases in Surgery in the Middlesex Hospital, in the Cancer Establishment, and in Private Practice.* These were published from 1816 to 1818. The benefit of this system, and the advantages arising from viewing diseases upon an extended scale, must be obvious to every one, and much credit is due to the principal officers of the Southwark hospitals for their adoption of the plan and the reports, which, under the able editorship of Dr. Barlow and Mr. J. Babington at Guy's, and Mr. South at St. Thomas's Hospital, have hitherto been submitted to the notice of the profession. To the Guy's Hospital Reports Dr. Bright has contributed largely, there being no less than ten papers in the six numbers already published.

It is to pathology we must look for the most satisfactory elucidation of the operations of the animal economy; more light has been obtained from this source, and more real advantage derived in physiological science, by researches into morbid anatomy, than by any other means, not even excepting the operations that have been performed upon living animals. To collect together, and to record the observations, therefore, made upon diseases on a large scale, such as is only to be met with in the hospitals and large establishments, is a matter of the very first moment, as a means of advancing medical knowledge, and our thanks are due to those who devote themselves to the performance of this task.

"Without personal observation, medical science must decline — without recorded experience, it must at best be stationary—and it is only by a union of

the two, that it can be rendered cumulative and traditive, and, consequently, progressive."*

To aid in this work, Guy's Hospital affords the most ample advantages, for, in addition to the wards for the reception of five hundred patients, two spacious apartments, one containing twenty-three males, and the other eighteen females, are set apart for the purpose of clinical instruction; and into these such cases as the physicians may deem best fitted for instruction, are admitted. There is also an Eye Infirmary, containing twenty-eight beds for the admission of cases of disease of that important organ; and also, a small ward, or portion of a ward, for the special reception of such instances of uterine disease, as the obstetric physician may think proper to select for the information of the students in this class of diseases. The opportunities for acquiring information in surgical diseases, are not less distinguished. The accidents in the district of the hospital are very numerous, and give rise to many serious operations—the various forms of injury occurring among the working classes of society, are to be seen—in short, disease in all its forms and varieties, and affecting all temperaments and individuals of very opposite habits. These will be admitted to be abundant sources for observation. Let us now look at the results, as far as Dr. Bright is concerned.

1. *Observations on the Treatment of Fever.*

2. *Cases Illustrative of the Effects produced when the Arteries and Brain are diseased: selected chiefly with a view to the Diagnosis in such Affections.* All attempts to elucidate affections so obscure in their nature during life, are entitled to the most serious attention of the practitioner. The cases here narrated, are too numerous to give even in abstract; but they are calculated to exhibit some of the different forms which disease of the brain assumes, in consequence of a morbid change taking place in the condition of the arteries.

3. *Case of Tetanus, in which Quinine and Stimulants were administered extensively with success.*

4. In the previous notice of the "Reports," Dr. Bright's discoveries relating to cases of Renal Disease, accompanied by the secretion of *Albuminous Urine*, have been adverted to. The second part of the Guy's Hospital Reports, contains *Cases and Observations* to display the subject in a greater extent: for not only are a variety of cases related, but the paper closes with an extended tabular view of the morbid appearances occurring in one hundred cases in connexion with this condition of the urine. An analysis of this view exhibits many curious facts relating to the derangement of different organs connected with the morbid changes, known as the mottled and granular kidney. One of the most remarkable circumstances is to be found in the frequency of its occurrence, and the derangement of

* Preface to the Reports, p. viii.

other organs in connexion with it. Dr. Bright views the disease of the kidney as the primary organ affected, and the chief promoter of the derangement of the others. Next to the kidney in importance, in this respect, he regards the skin, the relations of which with the kidney are too well established to need elucidation. The disease thus particularly noticed by Dr. Bright, is remarkable for its fatality. He believes that not less than five hundred die of it annually in London alone. The disease once established, little indeed appears to be the chance of benefit from any mode of treatment. Dr. B.'s object, therefore, in the paper now under notice, is to impress upon the members of the profession the insidious nature of the disease, that they may be led to watch its first approaches with all the solicitude which they would feel on discovering the first suspicious symptoms of phthisis or of epilepsy. The symptoms and course of the disease, its probable causes, duration, &c., are well and faithfully detailed.

5. In part three of the Guy's Hospital Reports, Dr. Bright has recorded an *Account of a Remarkable Misplacement of the Stomach.* The stomach in this case was contained in a membranous bag, over parts of which a scanty distribution of muscular fibres could be traced, and it extended into the right and left cavities of the chest. The muscular bag was ascertained to be formed by a splitting of the diaphragm—a congenital malformation. The subject of this singular displacement was a female of the age of nineteen years at her death, delicate from her childhood, and affected by shortness of breathing. The slightest cause would occasion derangement of her stomach, and the chest was observed to be of a peculiar conformation.

6. *Observations on Jaundice.* These relate more particularly to that form of the disease which accompanies the diffused inflammation of the liver.

7. *Observation on the Situation and Structure of Malignant Diseases of the Liver.* This is an important communication, accompanied by plates illustrative of the several conditions of the diseased organ.

8. The fourth part of the Guy's Hospital Reports contains a paper of *Cases and Observations Illustrative of Diagnosis, where Tumours are situated at the Basis of the Brain; or, where other parts of the Brain and Spinal Chord suffer lesion from disease.* The difficulty of forming a diagnosis in the cases alluded to, is admitted by all practitioners; the record, therefore, of authentic cases, in which an opportunity has been afforded of watching the symptoms during life, and comparing them with the morbid appearances, are exceedingly important. Dr. B. has met with two cases where a tumour existed just beneath the tentorium, in contact with, or actually attached to, the petrous portion of the temporal bone, and pressing aside the pons varolii, and it is highly deserving of remark, that the symptoms bore a great resemblance in both cases, from which Dr. B. infers that—

"in disease, as in other matters, there is a fixed relation, which it is possible we may discover between cause and effect;—a belief which is indeed essential, in order to render our investigations on the subject of diagnosis satisfactory and interesting."

In the fifth and sixth numbers of the Guy's Hospital Reports, Dr. Bright has entered upon an inquiry into the nature of *Abdominal Tumours and Intumescence*, and illustrated the subject by some cases of *Acephalocyst Hydatids*. An arrangement of such a subject is of great utility, and Dr. Bright has formed his principally upon the parts affected. These he considers then as relating to the integuments, the peritoneum, the stomach, the intestines, the liver, the spleen, the pancreas, the mesenteric glands, the kidneys, the bladder, the uterus, and the ovaries. Then come those under the denomination of extra-uterine bodies, and aneurism. This arrangement is then subjected to the nature of the enlargement or deposit, by which the whole particulars are brought under consideration.

To arrive at a correct diagnosis, among other things, it is of great importance to fix the precise normal situation of the viscera contained within the abdomen. This, every one versed in anatomy knows to be a matter of some difficulty, for the position of organs is often various. This applies more especially to the arch and sigmoid flexure of the colon, which in different individuals present very different appearances. To facilitate the object in view, Dr. Bright has marked out the abdomen into regions, and assigned certain boundaries to the respective organs contained within. The importance of registering facts relating to the anomalous formations, and noting with precision the variations produced in the situation of the different viscera, will be readily admitted; and to facilitate this object, Dr. B. has materially assisted, by his invention of mechanical aids for this purpose. He has a figure of the outline of the abdomen, which can be used as in the mode of stencilling, and thus in a few seconds give a faithful representation of the position of any abdominal tumour. This subject will be best understood by a reference to the plates given in Dr. B.'s paper on this subject.

From this notice of the works of Dr. Bright, it will be apparent, that the great advantages offered to him by his course of study and opportunities of seeing disease, and the treatment of it, both at home and abroad, have not been neglected; he has, indeed, applied himself with a most commendable ardour to acquire every information connected with his professional pursuits, and he has communicated the results to his pupils and the profession in the most free and unreserved manner. He has reaped his reward —in the confidence of the public, the esteem of the members of his profession, and the honour bestowed upon him by his sovereign, being, upon the arrangement of her majesty's household, appointed one of the Physicians Extraordinary. His fame abroad is equal to his reputation at home. The diseased condition of the kidneys, which he has so well described, and

to which he may fairly lay claim to originality, and the light it has thrown upon dropsical affections, has given rise to many laudatory remarks by various scientific foreigners, who have, indeed, not hesitated to designate the disease by the name of the author, and, whilst two able journalists call it Morbus Brightii,* another, with no less zeal, has denominated dropsy by the title of "L'Albuminurie ou Hydropisie causée par maladie des Reins."†

Dr. Bright's class of pupils at Guy's Hospital is extensive, and so far back as 1832 he was urgently solicited by his pupils to print an address delivered by him at the commencement of a course on medicine. In this address he takes a general view of the animal economy, and points out the nature and objects of medical science. The advice given to the students as to the course of study necessary to be pursued, and the importance of their avocations, are agreeably and powerfully depicted, and do equal honour to the feeling and discrimination of the worthy lecturer. His fitness to teach is amply shown by the deep sense of responsibility with which he is affected, and fortunate indeed are those pupils who fall under the guidance and tuition of so experienced a master. He is a Fellow of the Royal Society, and several other scientific institutions. He is also one of the Examiners of the Veterinary College, having, in that capacity, been associated with Sir A. P. Cooper, Sir B. Brodie, Sir C. Bell, Dr. Babington, and Dr. Cooke.

Dr. Bright has been twice married: first to Martha, youngest daughter of the late Dr. Babington; and secondly, to his present wife, the youngest daughter of Benjamin Follett, Esq., of Topsham, near Exeter, and sister to Sir W. W. Follett.

* Drs. Bresslar and Jacobson, in the Analekten der Speziellen Pathologie und Therapie, published at Berlin, 1837.

† Paris, 1838, par le Dr. Martin Solon.

B. L. Brodie

SIR BENJAMIN COLLINS BRODIE, BART.
F. R. S.

SERJEANT-SURGEON TO THE QUEEN.

Αἰὲν ἀριστέυειν καὶ ὑπείροχον ἔμμεναι ἀλλων.
Still to be first, and rise above the rest.

There are few members of the medical profession, in any of its branches, who have more assiduously exerted themselves to acquire scientific and professional information, and to disseminate that knowledge, than the respected surgeon whose labours I am now about to notice.

Sir Benjamin Collins Brodie is the third son of the Rev. Peter Bellinger Brodie, M.A., rector of Winterslow, and an influential magistrate and deputy-lieutenant of South Wilts, and of Sarah, daughter of Benjamin Collins, esq., of Milford, near Salisbury. The late Dr. Denman married a sister of the Rev. P. B. Brodie, and an elder sister of Miss Collins was married to the late Sir George Staunton, Bart., the author of the well-known and excellent account of Lord Macartney's Embassy to China. Mr. Brodie, the eminent barrister and conveyancer, is the elder brother of Sir B. C. Brodie, and another brother is one of the representatives in parliament for Salisbury. Sir Benjamin was born on the 9th of June, 1783; and he, together with his brothers, received a private education, having been brought up altogether in their father's house. Mr. Brodie took great pains with the education of his children; and Sir Benjamin has always said that he is mainly indebted, for the success he has met with in life, to the habits of perseverance which his father enabled him to acquire.

Sir B. C. Brodie commenced his professional education under the tuition of the late Mr. Wilson and Mr. Thomas, the present president of the Royal College of Surgeons, who at that time were teaching anatomy at the Hunterian School in Great Windmill-Street. In the year 1803, he became Sir Everard Home's pupil at St. George's Hospital. In October, 1805, he began to assist Mr. Wilson in teaching anatomy, and officiated as demonstrator until 1809, when he was associated with Mr. W. as lecturer in anatomy; and he continued to give a considerable portion of the anatomical lectures until

the year 1812, when Mr. W. entered into a partnership with Sir Charles Bell, who, from that time, delivered lectures in his place. In 1808, he was appointed assistant to Sir Everard Home, surgeon to St. George's Hospital, by which he had the good fortune of obtaining an important public trust very early in life, more than a year and a half before he thought it worth while to put his name on his door as a candidate for practice. From this time he had the principal charge of Sir Everard's patients at the hospital, and for some years also the care of those of Mr. Gunning, who was permitted to retain his situation in the hospital while absent with the Duke of Wellington's army in Spain. Sir B. Brodie filled the post of assistant-surgeon for an unusually long period, not being elected surgeon until the resignation of Mr. Griffiths in 1822. About six months after his appointment as assistant-surgeon, he made his debût as a lecturer on surgery, and he continued to give to a large class a regular course until 1830. Since that time he has confined himself to the delivery of a gratuitous course of clinical surgery during the winter. Clinical lectures, however, he had delivered from the year 1813, and, with the exception of one year, has never failed to perform this most important or professional duties. He received the appointment of Professor of Anatomy and Surgery to the Royal College of Surgeons in 1819, and held this office until 1823. He was elected a Fellow of the Royal Society in 1810, and was honoured with the Copley Medal in 1811, for his physiological contributions to the Philosophical Transactions. Upon the death of Sir Everard Home in 1832, he was appointed one of the Serjeant-Surgeons to the King: he attended their majesties George IV. and William IV., and is now Serjeant-Surgeon to the Queen. Upon his appointment as Serjeant-Surgeon, he had a Baronetcy conferred upon him, the patent of which bears the date of August 21, 1834.

The first paper published by Sir Benjamin Brodie was in 1809, in the 3d volume of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge: *A Case of Abscess of the Brain, which discharged matter by the ear.* These cases are of rare occurrence, and the present detail is valuable. It would appear to have existed for at least twelve years before symptoms of pressure occurred to prove fatal.

"In the left hemisphere of the brain there was a cyst, about three inches in diameter, of a pulpy consistence, thick, and vascular, and containing a thick, dark-coloured pus. The lower part of the cyst rested on the petrous portion of the temporal bone. There was a very small opening through the cyst, dura mater, and bone, forming a communication between the cavity of the cyst, and the meatus auditorius externus."

From this case, Sir Benjamin infers, that pressure on the brain is, on the whole, a more serious injury than the loss of substance in that organ.

In the Philosophical Transactions he has six papers: in the volume for 1809 he has given—

1. *An Account of the Dissection of a Human Fœtus, in which the Circulation of the Blood was carried on without a Heart.* Other instances of this mal-conformation are upon record; but in the present case the child differed much less from the natural formation than those previously noticed, and furnished, therefore, an inducement for its particular examination. The child was one of a twin still-born at the seventh month of utero-gestation. Under the integuments of the neck and chest were two cysts containing fluid, which, when evacuated, gave to the child nearly a natural appearance, save that of having a hare-lip and a deficiency of some of the toes and fingers. Nothing unusual in the brain and nervous system was observed; but in the chest there was not found either a heart, a thymus gland, or a pleura. The thorax was filled with a dense cellular substance, and the parts corresponding to the lungs were two rounded bodies, not more than one-third of an inch in diameter. The diaphragm was membranous. There was no cardiac opening into the stomach, the intestines were shorter than usual, and there existed neither omentum, liver, or gall-bladder. There were also deviations in the arterial and venous systems. When the aorta reached the upper part of the thorax, it gave off the subclavians, and then divided into the carotids without forming any arch. At the time of the publication of this paper, Sir Benjamin was not aware that all cases of this description (as I believe first pointed out by Dr. Young) are of twins; and that the heart of one child maintains the circulation of the other, as in the instance alluded to in the Memoir of Sir A. Cooper, Bart. Sir Benjamin took an opportunity to mention this circumstance in one of his lectures delivered at the College of Surgeons in 1823.

2. The Croonian lecture for 1810 was by the appointment of the President of the Royal Society furnished by Sir B. Brodie. The subject selected was, *On some Physiological Researches respecting the Influence of the Brain on the Action of the Heart, and on the Generation of Animal Heat.* It may fairly be said, that in the whole range of subjects embraced by physiological science, there is not one of more importance than that chosen on this occasion. Anatomists have long known that the brain is not directly necessary to the action of the heart, and that the circulation of the blood ceases from the suspension of respiration, and not from the annihilation of the functions of the brain. Various experiments have been made, to illustrate this. Those recorded by Sir Benjamin in this lecture go to prove this fact—to show that if respiration can be maintained, even artificially, that the heart will continue to contract with strength and frequency, even though the spinal cord be divided from the brain. Sir B. contrived an apparatus to effect this, and at the same time carefully noted the circumstances connected with the secretion of the urine, which in these experiments was found to be suppressed. The conclusions he has drawn from this inquiry, conducted with great precision, and detailed with equal perspicuity, are as follow:

"1. The influence of the brain is not directly necessary to the action of the heart.

"2. When the brain is injured or removed, the action of the heart ceases, only because respiration is under its influence; and if under these circumstances respiration is artificially produced, the circulation will still continue.

"3. When the influence of the brain is cut off, the secretion of urine appears to cease, and no heat is generated; notwithstanding the functions of respiration and the circulation of the blood continue to be performed, and the usual changes in the appearance of the blood are produced in the lungs.

"4. When the air respired is colder than the natural temperature of the animal, the effect of respiration is not to generate, but to diminish animal heat."

3. In 1811, Sir Benjamin communicated to the Royal Society, through a Society for Promoting the Knowledge of Animal Chemistry, an account of some *Experiments and Observations on the different modes in which Death is produced by certain Vegetable Poisons.* The society here alluded to was a private association, formed to promote the progress of a particular branch of scientific inquiry. The co-operation of men associated together for such a purpose appears well calculated to answer the object intended. The sphere of usefulness of the Royal Society, which should receive communications from bodies so composed, would be much extended, and it is greatly to be regretted that the plan has not been followed up. Sir Benjamin was assisted in these inquiries principally by Mr. Brande and Dr. E. N. Bancroft.

To ascertain the *modus operandi* of the various poisons, animal and vegetable, is a matter of great moment, inasmuch as it may serve to point out the means necessary to be adopted to obviate their fatal effects. It is rather surprising that a subject oftentimes so painfully interesting as toxicology, should have been so little attended to; and prior to the researches of Sir B. Brodie, it is not too much to say, that it had not received anything like a scientific investigation of the precise course by which the deleterious effects of poisons are exerted upon the animal economy. To ascertain the effects produced by different vegetable poisons, Sir Benjamin made experiments, in which the poison was applied in some instances externally upon wounded surfaces, and in others internally, that is, upon the mucous membrane of the tongue, and the alimentary canal. The poisons selected were—alcohol; the essential oil of bitter almonds; the juice of the leaves of aconite; the infusion of tobacco; the empyreumatic oil of tobacco; the woorara; and the upas antiar. In the course of these experiments, Sir Benjamin found that by maintaining respiration, the circulation could be made to continue, though the animal be under the decided effects of the poison, as manifested by complete insensibility, and the loss of the power of generating animal heat. This is an important consideration—it is evident that, at least, time may thus be gained, to employ remedies to counteract the effects of the poison, and recovery probably effected. This, indeed, was the case in one of the experiments upon a rabbit, which had been

inoculated with a drop of the oil of bitter almonds. In two minutes the poison began to act; in five, death had apparently ensued; but the heart continued to beat. Artificial respiration was kept up at the rate of thirty-five times in a minute. After six minutes, the animal moved his head and legs, and attempted to breathe naturally—convulsions followed this effort, and he again became still—the artificial respiration was continued—he again essayed to breathe, and at the end of sixteen minutes his respiration had returned. In less than two hours he was well, and continued so. Had not the circulation been maintained by the artificial respiration, this animal must necessarily have died. The following are the conclusions drawn by Sir Benjamin from his experiments:—

1. "Alcohol, the essential oil of almonds, the juice of aconite, the empyreumatic oil of tobacco, and the woorara, act as poisons by simply destroying the functions of the brain; universal death taking place, because respiration is under the influence of the brain, and ceases when its functions are destroyed.

2. "The infusion of tobacco when injected into the intestine, and the upas antiar when applied to a wound, have the power of rendering the heart insensible to the stimulus of the blood, thus stopping the circulation; in other words, they occasion syncope.

3. "There is reason to believe that the poisons, which in these experiments were applied internally, produce their effects through the medium of the nerves, without being absorbed into the circulation.

4. "When the woorara is applied to a wound, it produces its effects on the brain by entering the circulation through the divided blood-vessels, and, from analogy, we may conclude that other poisons, when applied to wounds, operate in a similar manner.

5. "When an animal is apparently dead from the influence of a poison which acts by simply destroying the brain, it may, in some instances at least, be made to recover, if respiration is artificially produced, and continued for a certain length of time."

4. The series of *experiments* mentioned above, were continued, and others made to explain the effects produced by animal poisons, and laid before the Royal Society in 1812. The poisons selected for experiment were—arsenic, muriate of barytes, emetic tartar, and corrosive sublimate: and the following conclusions respecting their action, have been most carefully deduced.

1. "Arsenic, the emetic tartar, and the muriate of barytes, do not produce their deleterious effects until they have passed into the circulation.

2. "All of these poisons occasion disorder of the functions of the heart, brain, and alimentary canal; but they do not at all affect these organs in the same relative degree.

3. "Arsenic operates on the alimentary canal in a greater degree than either the emetic tartar or the muriate of barytes. The heart is affected more by arsenic than by the emetic tartar, and more by this last than by the muriate of barytes.

4. "The corrosive sublimate, when taken internally in large quantity, occasions death by acting chemically on the mucous membrane of the stomach, so as to destroy its texture; the organs more immediately necessary to life, being affected in consequence of their sympathy with the stomach."

Sir Benjamin observes, that "the effects of mineral are less simple than those of the generality of vegetable poisons; and when once an animal is affected by the former, there is much less chance of his recovery than when he is affected by the latter."

5. The Croonian lecture for 1810, treated of the influence of the brain in the generation of animal heat. In 1812, Sir Benjamin having continued his inquiries, laid before the Royal Society some *Further Observations* on the subject. Additional experiments seem to confirm the truth of his former opinions and conclusions. He found, that in proportion as the sensibility of an animal under the influence of a poison became impaired, so also was its power of generating animal heat; and, that if an animal was apparently dead from the action of the poison, and its circulation kept up by artificial respiration, the generation of heat was as effectually destroyed, as if its head had been removed from its body. And it followed, that if the artificial respiration could be pursued for a sufficient time to admit the effects of the poison to subside, that then, with the returning sensibility of the animal, the power of generating heat was also restored. In this paper, Sir Benjamin submits to the Society the results of his particular inquiries as to the condition of the respiratory function; and he has endeavoured to ascertain the relative quantities of air consumed in breathing by animals in a natural state, and by those in which the brain had ceased to perform its offices. From the experiments detailed, it would appear, that the influence of the brain and nervous system is not necessary to occasion the chemical changes effected upon the blood, in its transit through the lungs. This subject is one of such great importance, and the researches of Sir Benjamin are, in my opinion, of such value in determining a most difficult physiological inquiry, that it may not be uninteresting to my readers to have a sketch of the opinions that have been entertained by previous physiologists, and the state of the question as it at present stands, submitted to their notice.

The subject of Animal Heat is one of great importance, and involved in considerable intricacy. That it is connected with the respiratory process, is clear from various circumstances. The degree of heat possessed by an animal, is proportionate to the size of the lungs—cold-blooded animals have, therefore, small lungs compared with warm-blooded, whose lungs are capacious. The circulation is also affected by the respiration; and when the circulation is rapid, the heat of the body is greater than under a contrary state. Living matter is distinguished from that which is dead, principally by the power it possesses of resisting changes of external temperature, and maintaining an almost uniform degree of heat, independently of the condition of things around it. This power seems to depend upon the perfection of the organization, for animals highest in the scale of creation, and whose organs are the most complex, have this faculty in the highest degree. The temperature of the human body is 97°, or 98°; that of

viviparous quadrupeds 100°, or 101°; and of the oviparous animals, or birds, 107°, or 108°. That the temperature of animals shall remain the same uninfluenced by the medium with which they are surrounded, is a truth, as far as man and the higher animals are concerned; but not entirely so when applied to animals generally, as Dr. Reeve has shown in an ingenious "Essay upon the Torpidity of Animals." In animals that hibernate, or become torpid during a certain season, the temperature is diminished, the circulation becomes slower, the respiration is less frequent, and sometimes entirely suspended, and the action of the stomach and digestive organs, the irritability and sensibility of the muscular and nervous powers, are diminished and suspended.

The temperature of man varies a few degrees in disease or malformation. In those cases called blue-children, in which the foramen ovale remains open during life, the blood is not properly arterialized—the respiration is irregular, and the temperature of the body less than of those in whom the formation is perfect. The power, therefore, of maintaining temperature, would appear to be not a power of life, as it has been repeatedly stated to be, but merely a due and proper performance of the animal functions.

It is astonishing what excesses of temperature can be borne without affecting the natural standard of the human body: the Russians subject themselves to vapour baths of very high temperature, not less than 130° or 140°, and then roll their bodies in the snow; yet their natural temperature is unchanged. Duhamel communicated to the Royal Academy of Paris, (1764,) the relation of the case of the maid-servants of a baker at Rochefoucault, who could venture into an oven heated to 278°, and remain for twelve minutes; and Duhamel and Dutillet, themselves, sustained, for nearly five minutes, a degree of heat equal to 290° Fahr. Sir Charles Blagden, Sir Joseph Banks, Dr. Fordyce, and others, made experiments upon the same subject, and the results are detailed in the Philosophical Transactions, (1775.) The temperature of their bodies was stated to have risen not more than three or four degrees, although in a room heated considerably above the temperature of boiling water for a very long time. Dr. Currie immersed persons in salt water at the temperature of 40°, and he found the heat of their bodies reduced to 90°, and then to 88°, after which, it rose to 96°, and remained stationary.

When we consider that man is frequently placed in a medium from thirty to forty degrees below that of his own body, and that, notwithstanding this, he is capable of maintaining a uniform degree of heat, it cannot be a matter of surprise, that the power should be ascribed to an action of life—it will be necessary, therefore, to look into the phenomena connected with this subject, and endeavour to ascertain the efficient cause and source of animal heat, and the means by which its uniformity is preserved. The ancients fixed its situation in the heart, whence it was supposed to be distributed throughout the body, and they imagined the lungs to be of use in

cooling the blood, and keeping it at a temperature adapted to the health of the body. I shall not detail the opinions of the chemical and mechanical philosophers, of the combustions and the fermentations that were supposed to take place between the different substances—of the rubbings between the blood and its vessels by the friction of the globes and the parietes of the extreme capillaries—these are now unworthy of attention; but I may allude to more reasonable doctrines, and among these must first be noticed the doctrine of Mayow, who was, I believe, the first to maintain that the purpose of the lungs was not to cool the heart, but to generate heat, which he conceived was effected by means of the absorption of the nitro-aerial spirit of the air. Black elucidated the matter further by demonstrating the similarity of the air expired to that produced by burning charcoal—hence the extrication of heat was attributed to a kind of combustion going on in the lungs. His hypothesis, however, based upon that of Mayow, fell to the ground, from his inability to answer the inquiries of his opponents as to the increased condition of the temperature of the lungs themselves where such a process was going on, and which, as the seat and centre of it, might reasonably be expected to give evidence of a superior degree of heat to that of all other parts of the body.

Lavoisier pointed out more accurately the exact nature of the effects produced by respiration in the lungs, and maintained Black's doctrine, that heat must be generated by the formation of carbonic acid in the lungs. To Black and Lavoisier succeeded Crawford, whose essay upon this subject is well known. Upon a series of well-contrived and most ingenious experiments, he formed a theory of animal heat which made it to depend upon the change which the air undergoes by its entrance into the lungs, agreeing with Black and Lavoisier as to the combustion of a carbonaceous body, and the consequent generation of heat; but he did not stop here, for he showed that the oxygen contained in the atmosphere not only entered into the formation of carbonic acid, but also converted the venous into arterial blood, which latter he found to possess a greater capacity for heat than venous blood, and he therefore conjectured the heat to be engaged in saturating the venous blood, and equalizing its temperature with that of the arterial. Further, he maintained, that by this operation the heat was not set at liberty in the lungs; but that this took place gradually in the course of the circulation, and was thus distributed to all parts of the body. This has been declared to be "one of the most interesting and beautiful specimens of the application of physical and chemical reasoning to the animal economy that had been ever presented to the world."

One of the remote effects of respiration consists in its maintenance of the heart's action and the process of sanguification, and can be illustrated by creating an artificial respiration after an animal has been decapitated or destroyed. The experiments of Sir B. Brodie, I have shown, illustrate the operations of the nervous system, and point out how far the evolution of heat

can be maintained or produced under such circumstances. His experiments are not favourable to the chemical views of Crawford, for it was found that when the influence of the brain was cut off from the heart and blood-vessels, the generation of heat was suspended, yet the action of the heart, and the changes in the colour of the blood, could be effected. Further, Sir Benjamin found that it was not necessary, in order to produce this suspension of the generation of animal heat, that the head of the animal should be removed, for if an animal was killed by the administration of a powerful narcotic, the sensibility was destroyed, and the power of generating animal heat was as effectually prevented as in the case of the decapitated animal. But it was not necessary to destroy the animal to produce this effect, for as the action of the poison declined, and the sensibility was restored, the evolution of heat proportionably returned. These experiments, and the views founded upon them, have tended to subvert the doctrine of Crawford, which, for so long a period, had been received as completely satisfactory. They show animal heat to be mainly dependent upon nervous influence, and that as far as the respiratory organs are chemically concerned in the extrication of heat by the formation of carbonic acid, it can only be regarded as of a remote connexion with the subject. I say it must be looked upon as having a remote connexion with the subject; because it must be recollected, that in Sir B. Brodie's experiments, cool air, or, at least, air somewhat below the natural temperature of the animal, was employed, and the effect might therefore be to reduce the temperature otherwise occasioned by the generation of the carbonic acid gas. The air also thrown into the lungs, in these experiments, is independent of the volition of the animal, and the correspondence which exists between the different parts of the system. Nor did Crawford contend for the effect being manifested in the lungs; but by the passage of the blood in the course of its circulation, and principally in the capillary vessels. By an artificial inflation, a cooling process is established, and the heat is thus rendered latent. Le Gallois and Dr. Wilson Philip's experiments are opposed to those of Sir B. Brodie, and go to show a connexion between the diminution in the quantity of oxygen consumed and the deficiency in the evolution of heat where the process of an artificial inflation is employed. And Dr. Philip demonstrated that too large a quantity of air had been thus propelled into the lungs, and that if a smaller quantity was used, the cooling process was considerably diminished, and the power of the lungs in generating heat clearly exemplified. In one experiment, the temperature is absolutely stated to have been raised 1°, and Dr. Hastings has performed similar experiments with like results. From these experiments, and particularly those of Le Gallois, it is clear, that the evolution of heat bears an uniform relation with the consumption of oxygen. The French physiologist found the process influenced by a great number of circumstances: the laying an animal on its back, or being confined, tended to lower its temperature; for if operated upon when at

liberty, the animal was found to consume more oxygen. The cooling was most rapid when the animal struggled much. The conclusion drawn by Gallois is, that the nervous system affects the temperature; but that it is by an indirect operation, so far as it contributes to bring the air into contact with the blood. Later experiments by Dr. Williams go also to show, that artificial respiration, when properly conducted, prevents the abstraction of heat which would otherwise take place; while in some cases the temperature was observed to be sensibly increased by this process.

In 1823 Sir Benjamin delivered at the College of Surgeons an important lecture upon this subject, which I cannot but regret has not been printed. In this lecture he alluded to the experiments of Dr. Chossat of Geneva, to show the effects produced by the division of the spinal chord in various situations. When the division was made in the upper part of the back, the animal cooled considerably. But he cooled much more when the division was made in the neck. In proportion as the section was made at a greater distance from the occiput, there was a smaller loss of animal heat; and when it was as low as the space between the eleventh and twelfth dorsal vertebræ, instead of the heat being lessened, it was actually increased, so that at the end of ten hours the thermometer had risen from 105 to 109. Dr. C. has also shown, that when the influence of the brain is withdrawn in such a way as not to destroy the power of breathing, the animal breathing by his own efforts cools as rapidly as a decapitated animal in whom the circulation is maintained by means of artificial inflation of the lungs.

6. In 1814, Sir B. Brodie submitted to the Royal Society *Experiments and Observations on the Influence of the Nerves of the eighth pair on the Secretions of the Stomach.* In the course of physiological inquiry already detailed, it will be recollected that Sir Benjamin found the functions of some of the secreting organs destroyed when the brain ceased to exert its influence on the system. The paper now referred to endeavours to illustrate this subject by showing that when a division is made of the *par vagum*, or eighth pair of cerebral nerves, the secretions of the stomach are suppressed.

I have now to direct the reader's attention to Sir B. Brodie's surgical works, which have been published in various volumes of the Transactions of the Medico-Chirurgical Society, and in distinct treatises. To the Transactions, Sir Benjamin has contributed ten papers:—

1. (Vol. IV.) *Pathological Researches respecting the Diseases of the Joints.*

2. (Vol. V.) *Further Observations on the Diseases which affect the Synovial Membranes of the Joints.*

3. (Vol. VI.) *Further Observations on the Ulceration of the Cartilages of Joints.* The arrangement of and observations made upon these diseases have been embodied in a work specifically devoted to this subject.

4. Vol. V. contains a small paper appended to a case of un-united

fracture of the femur treated by seton by Mr. Wardrop, in which Sir Benjamin expresses his opinion that this method of treatment, originally proposed by Dr. Physick of Philadelphia, would prove a considerable improvement in surgery. It has been found to succeed best in fractures of the upper extremities.

5. (Vol. VII.) *Observations on the Treatment of Varicose Veins of the Legs.* The difficulty of treating these cases is well known to every surgeon. Sir Benjamin has successfully employed a means of cure without the risk of tying the vena saphæna—it is by dividing the affected branches by a peculiar bistoury, the cutting edge of which is on the convex side. The skin is left as entire as possible, and pressure is adequate to the checking of any hæmorrhage that may ensue. He limits this operation to cases in which there is considerable pain referred to a particular varix, or in which hæmorrhage is likely to take place from the giving way of the dilated vessels, or in which they occasion an irritable and obstinate varicose ulcer.

6. To a paper by the late Mr. Henry Earle on *Contractions succeeding to Ulceration of the Skin*, Sir Benjamin details the first case in which a cicatrix was removed for a contraction of the integuments of the neck. The deformity arising from burns, and the peculiar tendency to contractions of the skin in these cases, have always been a source of much trouble and anxiety. Means were adopted to render the cicatrix longitudinal instead of transverse, and in this case perfectly succeeded.

7. (Vol. XIV.) *Pathological and Surgical Observations relating to Injuries of the Brain.* This is a paper of considerable extent, and is systematically arranged under the following heads:—1. *Immediate Effects of Injuries of the Head as indicated by Dissection.* 2. *Concussion of the Brain.* 3. *Compression of the Brain.* 4. *Wounds of the Brain and its Membranes.* 5. *On some other Symptoms following Injuries of the Brain.* 6. *Treatment of Concussion.* 7. *Treatment of Compression not complicated with Wounds of the Brain or its Membranes.* 8. *Treatment of Contusions and Wounds of the Scalp.* 9. *Treatment of Fractures of the Cranium unattended with Depression.* 10. *Treatment of Wounds of the Brain and its Membranes.* 11. *On the Treatment of some other Cases which are not included under the foregoing heads.* From this statement it it will be easy to perceive that any attempt at analysis in this necessarily brief memoir cannot be made; and all who are acquainted with the acuteness of observation possessed by Sir Benjamin, will not fail to form a proper estimate of the value of a contribution upon such a subject, and from one whose opportunities have been so great, and whose application has been so unabated.

8. (Vol. XV.) *An Account of a Case of Aneurism by Anastomosis of the Forehead, treated by the application of Ligatures.* Sir Benjamin has adopted the term given to this kind of aneurism by the late Mr. John Bell, as being sanctioned by custom, although he conceives it liable to objection,

as any actual increase of the anastomosis of the smaller arteries, is not proved to exist. The vessels are simply dilated, elongated, and tortuous. The cases are rare, but of much interest. Attempts to cure this disease in this instance, by occasioning obliteration of the arteries, had proved unsuccessful, and Sir Benjamin resolved upon the application of ligatures. A complete strangulation of the aneurismal tumor having been thus effected. it sloughed off, and the patient perfectly recovered. This mode of treatment forms an important improvement in surgery. A short time since, and the carotid artery would have been tied, with a view of relieving such an affection—the issue would be doubtful. It seems scarcely correct to view this case as aneurismal, it is simply a pulsating tumor, formed by the enlarged and tortuous vessels.

9. (Vol. XVII.) *Account of some Cases of Chronic Abscess of the Tibia.* These are dissimilar to any related by other surgeons. They are strictly chronic. The difficulty attendant upon forming a correct diagnosis, must have prevented the earlier adoption of the correct mode of relief. The profession are indebted to Sir Benjamin for this addition to surgical science.

10. (Vol. XX.) *Pathological and Surgical Observations relating to Injuries of the Spinal Chord.* This is a valuable contribution to a department which stands much in need of elucidation. It offers, not an elaborate detail of cases, but a general statement of the result of his experience.

In 1818, Sir B. Brodie put forth, in the shape of a regular treatise, his *Pathological and Surgical Observations on the Diseases of the Joints.* This work has been well received by the profession, and a fourth edition was published in 1836. Diseases of the joints are so varied in their nature, and so formidable in their effects, that it is of the utmost importance to discriminate their several conditions, that proper medical means may be adopted. The confusion of the earlier surgeons by their indiscriminate use of the terms, white swelling, spina ventosa, scrofulous joint, &c., has frequently been productive of mischief; and much credit is due to Sir B. Brodie, for his attempts to mark with precision the symptoms attendant upon diseases of the different structures which enter into the formation of a joint. The constitution of a joint is complex in its nature, and each part has its own peculiar morbid affections. Sir Benjamin has contributed much to the improvement of modern surgery, by recognizing the distinctions which exist in these cases, and each successive edition of the work has been productive of greater advances of surgical improvement. Much yet, however, in the opinion of Sir Benjamin, remains to be done, and this opinion he has most modestly expressed in the preface to the last edition.

"I trust that I have sufficient love of science to lead me to desire nothing so much as the attainment of truth; and that I am not so vain as to believe that none of my views can be erroneous. Indeed, one principal result of my labours

has been to convince me, that life is not long enough for these difficult researches; that the utmost which can be accomplished by the zeal and industry of an individual, is to make such progress in the study of pathology, as may enable those who come after him to carry their inquiries further; and that the expectations of any one who aims at higher objects than these, must terminate in disappointment."

This book must ever form an essential part of the library of every surgeon, and I shall, therefore, abstain from any description of its contents.

In 1819, Sir B. Brodie was appointed Professor of Anatomy and Surgery to the Royal College of Surgeons, and he has published the *Introductory Lecture*, delivered on the 6th of May, 1820, in which he treats of the importance of anatomy and physiology—of the inseparable connexion of these branches of science, and of the interest derivable from a contemplation of the organization and functions of animal bodies, the laws which regulate the phenomena of life, and the changes which matter undergoes, and the form which it assumes, when associated with this mysterious and active principle. Sir Benjamin contends against the opinion that the phenomena of life are to be considered as dependent solely on organization. He believes them to be incapable of explanation, except on the hypothesis of there being in living bodies something superadded to organization, without which, he says, "they would be as incapable of executing their functions as the pendulum of a clock would be of vibrating, or its wheels of revolving, if they were deprived of the spring or weight, in which the cause of their motion resides."

In Vol. XIV. (1822-3,) of the Quarterly Journal of Science, and published at the Royal Institution, there is a paper by Sir B. Brodie, entitled, *Observations on the Effects produced by the Bile, in the Process of Digestion.* He applied a ligature around the *ductus choledochus*, to prevent the bile entering the intestine, and noted the effects produced on the digestion of the food. The results were uniform. He found that in these cases the formation of chyme in the stomach took place as usual; but that it never became converted into chyle. Not the smallest trace of chyle could be detected, either in the intestines or in the lacteals. The office of the bile he, therefore, concludes to be *to change the nutritious part of the chyme into chyle, and to separate the excrementitious matter.* These experiments will be found to confirm those previously made by Dr. Blundell, and noticed in his memoir.

In 1832, Sir B. Brodie published his Lectures on the Diseases of the Urinary Organs, which had previously appeared in the Medical Gazette. In the separate work they were improved and enlarged, and a second edition was published in 1835. Sir Benjamin's opportunities of seeing cases of disease of these organs, under all circumstances, and the frequency of their occurrence, render such a work of great practical value. In the most plain and unaffected manner he has given the results of his practice, and described the circumstances attendant upon those afflicting disorders.

The different diseases of the urethra, bladder, prostate gland, the formation of calculi, the diagnosis of their presence, and the description of the operation of lithotomy for their removal, together with other means devised for the same object, and the causes of death after lithotomy, are all treated with a master's hand, and merit the closest attention of the surgeon.

In 1837, Sir Benjamin published a small volume of *Lectures Illustrative of Certain Local Nervous Affections.* These had appeared also in the Medical Gazette. His object was not to give a complete history of any particular disease, but to detail a certain order of symptoms having many characters in common, yet arising from various causes, and requiring very different modes of treatment. The number and variety of local nervous affections, must have excited the astonishment of every reflecting practitioner—effects are often looked upon as causes, and attentive observation, added to extended experience and sound physiological knowledge, can alone aid in unravelling the mysterious operations of the nervous system.

In 1837, Sir Benjamin delivered the annual oration at the Royal College of Surgeons, upon the birth-day of the late John Hunter. This commemoration, (founded by Sir Everard Home and Dr. Baillie,) of the extraordinary talents and genius of the great physiologist, is not devoid of interest or utility. Sir Benjamin was well calculated to do justice to the subject, and his Hunterian oration has been deservedly admired. He has given some interesting anecdotes of Cullen, William Hunter, and others, and has drawn a true picture of the character and genius of John Hunter.

In addition to the papers and works already noticed, Sir B. Brodie has contributed largely to the volumes of the London Medical Gazette. This periodical contains various papers and clinical lectures, delivered at St. George's Hospital.

In Vol. I. are, *Experiments and Observations, intended to explain the mode in which Death is produced by Lightning.* John Hunter has asserted that in persons killed by a stroke of lightning, there is an immediate destruction of the vital principle in *every part* of the body. Sir Benjamin's experiments go to show that it may act in various ways, and that in the majority of instances death is produced, as in cases of severe injury of the brain, by depriving that organ of the power of exercising its functions: in these cases, the heart will continue to beat for some time, and the contractility of the muscles is not destroyed. In this condition animal heat ceases to be generated, and the proper treatment of such cases is, therefore, to supply warmth, and maintain the heart's action by employing artificial respiration.

Cases of Needles extracted from various parts of the body.

Two Cases of Cysts containing a watery fluid, apparently connected with the Liver. The fluid was similar in both cases, and contained no

coagulable lymph. The application of heat occasioned nearly the whole to evaporate, leaving the smallest possible residuum of animal matter. About three pints in one case, and a pint and a half in the other, were drawn off. The patients did well. I am not aware of any similar cases having been recorded.

In Vol. II. *On Trephining the Tibia.* The tibia may be advantageously trephined in several cases:

1. "Where fungous growth arises from, or takes attachment to it;—2. where an abscess forms in the centre of the bone, having an external opening;—3. in necrosis;—and, 4. which is the rarest of the whole, where an abscess forms in the centre, without an opening externally; but where there are certain symptoms enabling you to determine the existence of the situation of the abscess."

Peculiar Affection of the Wrist, occurring in Hysterical Patients.

In Vol. V. *Introductory Lecture on the Conduct and Duties of the Medical Practitioner.* If the advice given in the discourse were followed by medical men in general, the character of the profession would be much raised in public estimation.

Observations on Certain Local Nervous Affections. These are embodied in his *Lectures Illustrative of Certain Local Nervous Affections.*

Use of Iodine in Morbid Growths. Sir Benjamin has employed iodine in a great number of cases of morbid growth, without much apparent advantage. He has, however, met with two instances of success beyond his expectations, and they are detailed in this communication.

In Vol. VIII. *Observations on Calculous Diseases.*

In Vol. IX. *Cases of Subclavian or Axillary Aneurism, for which the Subclavian Artery was tied.*

Clinical Lecture on Hydrocele and Hæmatocele.

In Vol. XI. *Case of Amputation at the Shoulder Joint.*

In Vol. XIV. *Clinical Observations on Un-united Fracture.*

Clinical Observations on Fatty Tumours.

In Vol. XV. *Clinical Observations on Encysted Tumours.*

Clinical Observations on Diseases of the Maxillary Antrum.

Clinical Observations on Hæmorrhoids.

In Vol. XV. XVI. XVII. and XVIII. *Clinical Observations on Diseases of the Rectum.*

In Vol. XVII. *Clinical Observations on Fistulæ in Perinæo.*

Clinical Observations on Tic Douloureux.

Clinical Observations on Compound Fracture of the Tibia, followed by Traumatic Delirium.

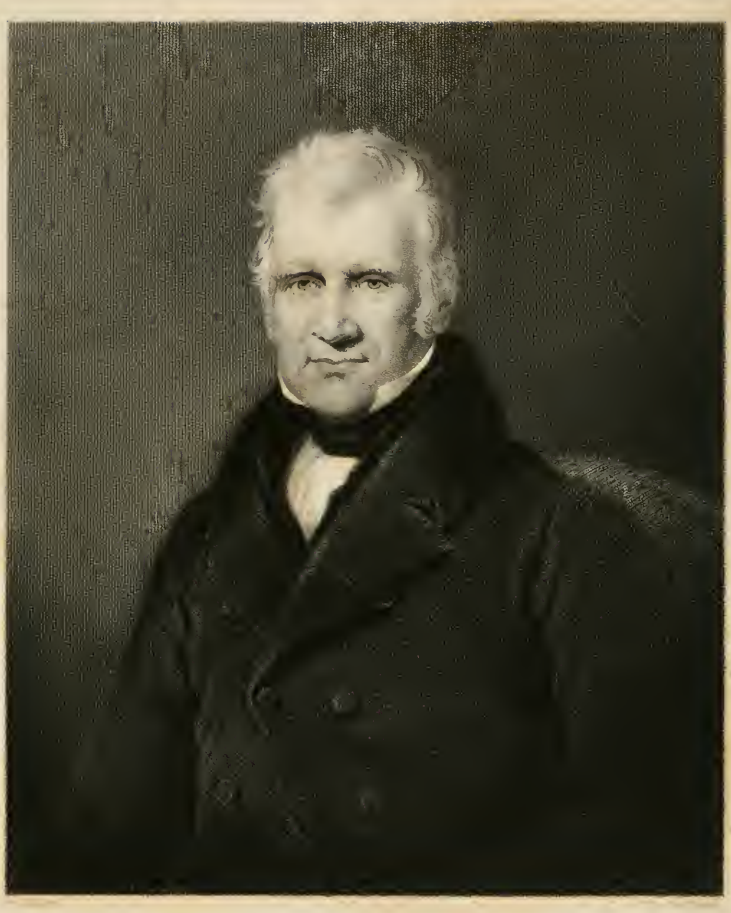
Clinical Observations on Corns and Bunions.

In Vol. XIX. *Lectures on Local Hysterical Affections.* (Published separately.)

With this summary of the labours of Sir Benjamin Brodie, I must close this present memoir; but I should not do justice to my own feelings, if I

were not, in conclusion, to express my admiration of his talents and his zeal. His works may serve as a model to professional writers, for the style is clear, precise, and energetic; it never fails to put the reader in full possession of the meaning of the author; there is neither redundancy nor deficiency. His works are evidently the production of a philosophical mind, carefully pursuing a train of inquiry, and cautiously making its deductions. The same style distinguished Sir Benjamin as a lecturer—plain and easy in his delivery—acute and always to the point—not a sentence could be spared, for every sentence had its value—to lose it, was to lose the thread of the discourse—to break the connected series of argugument or detail of facts upon which his opinions were legitimately based. He is now deservedly in the enjoyment of the first surgical practice in the metropolis; and, I believe, there is not a member of the profession, who will not cordially unite with me in the expression of a wish that his frame, naturally weak and delicate, may yet be able long to sustain such heavy labours, and that he may live to confer still greater benefits on his profession, by advancing the interests of science, and diminishing the sufferings of his fellow-creatures.

The portrait accompanying this memoir, has been expressly painted for this work by Mr. Henry Room. There is an excellent bust of Sir Benjamin, executed by Behnes.



H. Clutterbuck.

HENRY CLUTTERBUCK, M.D.

"If there were no Theorists in the world, how slow would be the advance of Science." JENNER.

THE progress of improvement in the science of medicine has, doubtless, been much retarded by the multiplicity of theories that, at different times, have been put forth. The exercise of ingenuity in the formation and propagation of systems founded only upon conjecture, and not based upon observation of the phenomena of nature, which alone can constitute true experience, have led to the adoption of erroneous views and dangerous practice. The late researches into the structure of the human body, in its healthy and in its disordered condition, and the arrangement of the whole system, according to the tissues of which it has been demonstrated to be composed, have done much towards dissipating the errors of former times, and establishing the science upon a more rational and certain basis. The history of medicine, indeed, presents to our view a singular picture of the folly and credulity of its professors; and an excellent writer, of great practical knowledge, the late Dr. Percival, has not inaptly remarked, that "a list of all the follies which, at different periods, have been established as articles of faith in medicine, would form the severest satire on the healing art." A foreign writer* of no less ability, has also remarked, that if there be a science overcharged with superfluous babble, *(babage surabondant,)* it is, without doubt, medicine: none, says he, stands more in need of a true philosophical spirit to direct its reform. This has been the fate of medicine from the earliest times, for the philosophers of antiquity both improved and injured the science of medicine. They rescued it from undiscerning ignorance; but they precipitated it into a variety of hazardous conjectures: they delivered it over from the blindness of empiricism, to all the rashness of dogmatism. We must not, however, conceal from ourselves the real difficulties which attend the acquisition of sound medical knowledge. Vogel has shown, that "Medicine not only comprehends a most extensive range of knowledge, but that its truths are often so profound, and so much concealed from a cursory inspection; so intricate, so much disguised, distorted, and obscured by a multitude of delicate and invisible causes,—that nothing less than the all-commanding eye of the most enlightened understanding,—

* Cabanis.

than the all-penetrating and all-searching power of genius, can possibly recognise that which is hidden in darkness; can follow that which is remote, into the last traces that it imprints; can distinguish certainty, from opinion and probability; can separate the essential, from the accidental; and, finally, can analyse and develope every subject of investigation so completely, as to leave no further doubt respecting any of its properties that are cognizable by human means." We ought ever to bear in mind that which has been forcibly pointed out by Cabanis,* and exercise the utmost caution in our inquiries; for the least erroneous view leads to some consequence. We must remember, that the lives of our fellow-creatures are at stake. How many cruel and premature deaths, how many impaired and debilitated constitutions, have paid for the follies of theorists!—follies, which have proved almost always fascinating. The study of a system, is more easy than the investigation of nature; and in practice it seems to smooth every difficulty. The mind loves to repose upon principles, which it believes itself entitled to substitute in the place of observation; and when these have been diffused to a certain extent, and have become a sort of creed for weak and servile understandings, should misfortunes accumulate, and victims fall a sacrifice under this new scourge of humanity, we are apt to look for the cause of these evils in frivolous circumstances, and are almost tempted to censure the eternal laws, without reflecting that these must always tend to our good.

These reflections have been called forth by the contemplation of the labours of one, to whom medical science is much indebted; of one who has deeply studied the Baconian philosophy, which points out the only sure means of advancing the knowledge we possess of medicine, by a practice founded on the observation of nature, and the infallible deductions of certain and approved experience. Medicine cannot lay claim to that degree of certainty which belongs to the mathematical sciences. Some doubts will remain, notwithstanding the most scrupulous investigation; and this induced a celebrated physician and moralist (Zimmerman) to consider physic as requiring a most liberal, active, and penetrating genius; for the physician being often obliged to confine himself to simple probabilities, will be unable to trace them to their highest degree, without an extreme share of penetration; and, from being almost constantly exposed to the application of principles which cannot be submitted to the evidence of the senses, he must necessarily become an inventor in the practice of his art. But here it is necessary to distinguish between true and false experience. The man who has seen the greatest number of patients, is not always the most expert practitioner—he is not always the most instructed:—to be such, he must have trained his mind to philosophical investigation;—he must have exa-

* Coup d'Œil sur les Révolutions et sur la Réforme de la Medecine. Paris, 1804. 8vo.

mined nature and all her operations with a careful eye;—and he must have combined and arranged the ideas he has acquired through the medium of the senses, by the operations of the understanding. His researches must not be limited to the physical, but he must look to the moral man—he must make himself acquainted with the several passions, and trace their operations upon the human frame, both in health and disease. Not to possess this knowledge, or endeavour to acquire it, is reprehensible in the highest degree—the practice of physic without it, is little better than *empiricism*. True experience is the result of inquiries instituted to ascertain the effects observable in the physical or moral world, and established with the view of discovering their causes, together with the manner in which they may be supposed to act. This requires the possession of genius—a talent for observation and a power of reflection, without which, it is impossible to form, or to arrive at, any satisfactory conclusions. "Folly cannot be more opposed to right reason, than the modern empiric differs from the true physician." The truth of this is very generally admitted, yet quackery reigns pre-eminent. It is most prevalent among people of fashion—it has ever been so, and there is not an empiric from the earliest time to the present day, who has not been able to number among his patrons and supporters, the names of many of the nobility. One generation improves little in this matter by the experience of the preceding. The measure of credulity is never full. Many submit to the nonsense uttered by an empiric, and yet affect to laugh at the jargon and despise the affectation of science; in England this exists in a greater degree perhaps than in any other country. From this painful consideration, let us now pass to a review of the course of study and the labours of an enlightened physician.

Henry Clutterbuck was born at Marazion, in Cornwall, Jan. 28, 1767. His father was a respectable solicitor there, and he was educated at the grammar-school of that town. He passed the usual period of five years apprenticeship with a surgeon in Truro, and then came to London in 1789, and attended the Hospitals of Guy's and St. Thomas's, and the lectures of Dr. Saunders and Dr. Skeete on medicine and materia medica, and of Dr. Babington (then apothecary to Guy's,) on chemistry; and Mr. Cline, senior, on anatomy and surgery. Subsequently to this, he attended for two years the lectures and dissecting-rooms of the late Dr. Marshal, a distinguished teacher of anatomy at that period. In 1790 he was admitted a Member of the Corporation of Surgeons, and soon after he was appointed Surgeon to the Royal Universal Dispensary, which office he held for several years, having, as his colleagues, the late Dr. Bradley, editor of the Medical and Physical Journal, and the present Sir Alexander Crichton. He passed the session of 1802-3 at the University of Edinburgh, attending the lectures of Dr. Gregory, Dr. Monro, senior, and Dr. Hope, on the different branches of medical science; and he removed thence to Glasgow, where he graduated

in 1804, taking, as the title of his inaugural thesis, *Tentamen Pathologicum, quædam de Sede et Naturâ Febris complectens.*

On his return to London at the end of that year, he became a Licentiate of the Royal College of Physicians. In 1808 he began to lecture on the theory and practice of physic, and subsequently on the materia medica and chemistry. This he continued to do till 1826, with a greater share of success than had fallen to the lot of any private teacher, since the late Dr. George Fordyce. The lectures were first given at his private residence, and afterwards at the General Dispensary, of which he was appointed one of the physicians in the year 1809. On the establishment of the Aldersgate School of Medicine in 1826, his lectures were transferred from the dispensary to that school, where they were continued for five years longer, when he ceased to lecture altogether.

Dr. Clutterbuck held the appointment of Physician to the General Dispensary for a period of twenty-five years, resigning his office, under unpleasant circumstances, in 1833. These related to a difference of opinion which existed between the committee and the medical officers, relative to the qualification necessary to vote in the election of the professional men of the establishment; the former being anxious to permit any one, upon the subscription of a guinea, to have an immediate vote; the latter, for a continuance of a regulation requiring each voter to have been a subscriber six months previous to the exercise of such a privilege. This wise regulation had been adopted in consequence of some disgraceful scenes that had taken place at previous elections, a recurrence of which it was desirable to prevent. The committee, however, could command on this matter the majority of votes, and Dr. Clutterbuck was therefore induced to resign his connexion with an establishment of which he had long been the principal ornament, and the prosperity of which his talents and character had most essentially promoted. In this step he was joined by his medical associates, Drs. Birkbeck, Lambe, and Roberts, and Messrs. Salmon and W. Coulson. The occurrence gave rise to numerous meetings of medical societies and other professional bodies, and addresses were forwarded to them, expressive of thanks for their opposition to what was considered a corrupt principle. The writer of this Memoir had introduced to the institution His Royal Highness the Duke of Sussex, who was pleased, in consideration of its being the parent dispensary in London, to become its President. He approved the conduct of the medical officers, and withdrew the patronage he had afforded to the charity.

With the exception of the thesis already mentioned, Dr. Clutterbuck's earliest production is, *An Account of a new and successful Method of Treating those Affections which arise from the Poison of Lead: to which are added, General Observations on the internal use of Lead as a Medicine.* This was published in 1794. The object of the pamphlet is to show, that

the operation of mercury in the system is not only different from, but in direct opposition to, that of lead. This he does, by contrasting the effects of these two poisons. Thus lead, he observes, produces torpor, or want of action in the muscular system—an inability to act at the instigation of the will is observed in the muscles of the hands and arms, which remain in a great measure motionless: upon dissection, after death, in these cases, the affected muscles appear flabby and loose in texture, and of a pale unhealthy colour, like muscles which have remained long inactive. Mercury, on the contrary, when used to excess, produces an increase of irritability in the whole system, muscular as well as vascular—the action of the heart is quickened, and a febrile state ensues. Inflammation arises in different parts, the mouth more especially; and the intestines are thrown into a state of violent action, with dysenteric purging, instead of the colic and constipation that follow the use of lead. Tremors of the hands, and likewise in the muscles of other parts, take place, altogether different from the inanimate state produced by the poison of lead.

This contrast between these two poisons rendered it not improbable, *à priori*, that the one might, in some degree, counteract the effects of the other, so as to prove an antidote to it. This supposition appears to have been confirmed by the result of several cases here detailed, which occurred in the practice of the Royal Universal Dispensary. One of these was communicated by Dr. Bradley, at that time Physician to the Westminster Hospital. It is mentioned in the pamphlet, as a remarkable circumstance, that persons labouring under the effects of lead, are susceptible in an unusual degree to the influence of mercury; so that salivation is induced by exceedingly small doses of this medicine. In speaking of the medicinal effects of lead, Dr. Clutterbuck adverts to its sedative and astringent properties, and quotes the authority of different writers in its favour; as, Avicenna, Paracelsus, Sproegel, Hundertmarck, Mr. White of York, and the late Dr. Heberden. He considers it not altogether improbable, that as mercury is an antidote to lead, the converse of this might also be true: but this is thrown out merely as an hypothesis.

In 1799, Dr. Clutterbuck published a letter addressed to the late Dr. Joseph Adams, entitled, *Remarks on some of the Opinions of the late Mr. John Hunter, respecting the Venereal Disease.* In this work, Dr. Clutterbuck combats several of the theoretical points maintained by Mr. Hunter in his treatise on the subject, and which are laid down as the laws that govern the action of the venereal virus. In particular, he calls in question the truth of the remark made by Mr. H., "that new poisons are rising up every day, resembling the venereal in many respects, yet of a really different nature." He thinks, on the contrary, that these anomalous cases, which have of late years been termed pseudo-syphilis, are nothing more than modifications of the lues venerea, rendered irregular by imperfect treatment, and especially by too much reliance having been placed on the

maxim of Mr. Hunter, that when once the mercurial action is excited in the system, there is no use in continuing to employ the remedy longer; as all that it is capable of as a remedy, has been already effected. This leads, Dr. C. thinks, to a slight and inefficient use of mercury; and this he considers the principal cause of the frequent occurrence of secondary symptoms of late, which, he contends, were far less frequent formerly, when more severe and long-continued courses of mercury were in general use.

In the year 1795, he instituted the *Medical and Chirurgical Review*, a periodical work, containing a compendium of medical literature, foreign and domestic. This he continued to publish, without assistance, till the year 1809, having completed the fifteenth annual volume.

I have already mentioned fever as a disease that had engaged Dr. Clutterbuck's attention at an early period, and that it constituted the subject of his inaugural dissertation at Glasgow. There is no affection of higher importance for the consideration of the medical practitioner; it is to the physician, that which inflammation generally, is to the surgeon. Yet what discrepancy of opinion exists as to its nature and its treatment! It is a disease usually regarded as not admitting of cure; but capable of being conducted through its course. This is an old observation, as ancient, I believe, as Hippocrates; and it is well told of Dr. Pitcairn, whose animosity to quacks is well known, that upon once being asked his opinion of a certain work on fevers, he replied, "I do not like fever curers; we may guide a fever, we cannot cure it. What would you think of a pilot who attempted to quell a storm? Either position is equally absurd. We must steer the ship as well as we can in a storm; and, in a fever, we can only employ patience and judicious measures to meet the difficulties of the case." When the febrile action is once clearly and decidedly established, I believe this opinion must be admitted as true. To conduct it safely, however, through its course, is a great desideratum; and the knowledge by which this is to be effected, is only to be attained by an acquaintance with its pathology. Let me now direct the reader to Dr. Clutterbuck's views upon this subject.

In 1807, appeared the first edition of his *Inquiry into the Seat and Nature of Fever, as deducible from the phenomena, causes, and consequences of the Disease, the Effects of Remedies, and the Appearances on Dissection.* A second edition of this work appeared in 1825. The object of the author in this publication is to show, that idiopathic fever, or fever strictly so called, instead of being a general affection, in which the whole system is concerned, is, on the contrary, a topical affection of the brain; and that it consists primarily and essentially in inflammation of the cerebral substance. This is proved, he thinks, by an analytical investigation of the symptoms that are essential to the disease; all of which, refer themselves to this organ as their source. Thus he alleges, that the sensorial, or proper functions of the brain, the animal functions, as they were formerly called,—

namely, sensation, voluntary motion, and mind,—are constantly observed to be disordered in fever, and that always in proportion to the violence and danger of the disease; while the general disorder of the system, the febrile symptoms, such as furred tongue, hot skin, and frequency of pulse, are merely those which accompany inflammation in general, wherever seated, provided it exists with a certain intensity, or to a certain extent. The influence of this doctrine, if established, is, no doubt, highly important in a practical point of view, as it leads to the adoption of an antiphlogistic treatment in many instances, where an opposite practice has been generally applied. Dr. C., however, is anxious to have it well understood, that the use of indiscriminate bleeding in the cure of fever, is no necessary consequence of the admission of his doctrine: on the contrary, he shows, that although blood-letting is highly useful in certain circumstances of the disease, especially at the outset, it is no less detrimental in others; and, generally, that it is inadmissible in an advanced stage of it.

In the year 1819, he published *Observations on the Prevention and Treatment of the Epidemic Fever at present prevailing in this Metropolis, and most parts of the United Kingdom; with remarks on some of the opinions of Dr. Bateman, and others, on the same subject.* The fever here noticed, appears to have spread very widely in England, Scotland, and Ireland, and to have proved fatal in a great number of cases, the proportion of deaths varying from one in twelve, to as much as one in five or six. Dr. Clutterbuck gives a summary account of fifty cases that he carefully watched and noted, as occurring chiefly in the practice of the General Dispensary. Upon a revision of these, he remarks, that no two of them corresponded perfectly in the minuter points; though they all agreed in this essential one, that is, in a manifest affection of the brain and its functions, various, however, in degree, with numerous, but accidental, complications. The disease was very generally believed to be contagious, and in this opinion Dr. C. appears to concur, although, in many instances, the fever seemed to arise immediately from some common cause of disease; such as cold, fatigue, or intemperance, and where not the least reason could be discovered for even suspecting it to proceed from contagion, yet the disease has afterwards proved infectious to others; and he adds, that in both cases, the symptoms were quite undistinguishable. A similar observation was made by Dr. Percival of Dublin, in his *Account of the Fever, as it appeared in the Hardwicke Fever Hospital, in the years* 1813, 14, *and* 15. This leads naturally to the conjecture, that the circumstance of contagion will have no material influence on the effects of remedies, for, as Dr. C. observes, it is reasonable to suppose, that a disease which exhibits none but ordinary symptoms, is subject to ordinary means of cure; similar symptoms can result only from a similar condition of body; which, of course, will be influenced by similar means. This conclusion seems to be warranted by the cases detailed in the present work. The disease

altogether, as here described, appears to furnish a strong corroboration of Dr. C.'s general theory of fever. The latter part of this volume contains a critique on the opinions regarding fever held by the late Dr. Bateman, physician to the Fever Hospital. Whilst, however, Dr. Clutterbuck does ample justice to the ability and candour of Dr. Bateman, he nevertheless opposes himself to some of his conclusions; and, at the same time, brings forward additional arguments in support of his own opinions. Dr. B. was an advocate for the employment of bloodletting in fever on numerous occasions, as much so upon the whole, indeed, as Dr. C. himself; but he employed it with a different view—that is to say, to relieve symptoms merely, but not to cure the disease: for example, to abate headache, watchfulness, too great sensibility to light, and too rapid a pulse, when these happen to be present in an unusual degree; but not directly for the purpose of relieving or removing the condition of the brain, out of which, according to Dr. C., such symptoms usually spring. This, it is evident, makes a wide difference in regard to the application of the remedy, especially as to the time of its administration. The cases here narrated, appear to afford the most satisfactory proof of the good effects of an antiphlogistic mode of treatment in the epidemic. The subjects of several of them were members of the medical profession; and, being referred to by name, may be considered as affording evidence of the most unequivocal kind. It is sufficient to mention the names of Dr. H. Blegborough, now residing at Richmond in Yorkshire; Mr. Powell, late a surgeon in the royal artillery; and the late Dr. Blicke, of Walthamstow; all of whom, as well as many others, came under Dr. Clutterbuck's care, and furnished a willing testimony to the good effects of the antiphlogistic practice, under the limitations suggested by him.

In 1837 Dr. C. published *An Essay on Pyrexia, or Symptomatic Fever, as illustrative of the Nature of Fever in general.* The object of this work is to show, that a febrile state of system, or what is technically denominated *symptomatic fever*, is always a secondary affection, the result of inflammation, and of no other cause; and that *idiopathic fever*, as it is called, affords no exception to the general principle here laid down: the only difference between this and other inflammations being in regard to the primary seat of the disease, which, in the case of idiopathic fever, is the cerebral substance, the febrile symptoms being merely secondary. The importance of the position here laid down, supposing it to be established, is very obvious, both in regard to diagnosis and practice; in the former respect, as enabling us to ascertain the existence of inflammation in many cases where the local symptoms are obscure; and in the latter, as leading to a more minute investigation of diseases, when accompanied by a febrile state of system, in order to discover, if possible, the primary affection—namely, the topical inflammation that caused the febrile symptoms. Dr. C., as it was natural to expect, applies this to the general doctrine of fever as before laid down, a disease in which the local affection is particularly obscured by the

great general disorder that prevails throughout the system, and which seems to have been the chief cause of the topical origin of the disease being so long overlooked. It is but fair to state, that the connexion and dependence of fever upon inflammation has of late been advocated by several writers, both abroad and at home, though they do not always agree as to the primary seat of the disease being in the brain; M. Broussais, in particular, contending for the alimentary canal being the "fons et origo mali." Dr. C. takes occasion in the present volume to remark on a work recently published, entitled *The Elements of Medicine*, the joint production of Drs. Bright and Addison; and he shows pretty clearly, by various extracts, that their opinions coincide, in all essential respects, with the doctrine of fever he had laid down; and, in short, that if they had adopted the term *brain* for the more extensive, but rather vague expression, *nervous system*, which they have employed, their theory and that of Dr. C. would be nearly, if not quite, identical.

Dr. Clutterbuck presided for four years over the Medical Society of London, and he has contributed two papers to the Transactions published by this Society. In one of these, he gives *Some Account of the Life and Writings of Nathaniel Hulme, M.D.*, one of the earliest members of the Society. He was physician to the Charter House, and distinguished himself particularly as the author of various interesting experiments on *Spontaneous Light*, which were published in the Transactions of the Royal Society for the year 1800. In the other paper, Dr. C. relates a *Case of Diseased Action of the Heart effectually relieved by Blood-letting, and confinement to a Horizontal Posture.* This is a short but an important practical communication, as it shows that symptoms of an alarming kind, and such as have usually been regarded as dependent upon organic disease, may be relieved, and by blood-letting, under circumstances which, in general, have been conceived to interdict the employment of such a remedy.

In the twelfth volume of the London Medical Repository, a paper, read by Dr. Clutterbuck before the Medical Society, has been printed. It is entitled, *Observations on the Nature and Preparation of the Elaterium.* This most active article of the materia medica was formerly prepared by expressing the entire juice of the wild or squirting cucumber, and then evaporating it to dryness. Prepared in this way, the medicine was subject to great uncertainty in regard to its purgative operation; and, accordingly, we find it recommended in very different doses by different writers, namely, from a quarter of a grain to two, and even as high as five grains; and that without any caution. Dr. C. wishing to obviate this uncertainty with regard to a highly valuable remedy, but which is not without danger if carried to excess, instituted a number of experiments for the purpose of ascertaining the best mode of preparing this extremely powerful medicine. He found, after many trials, that its active property resides, almost exclusively, in the transparent fluid that is lodged in the interior of the

fruit, surrounding the seeds. This fluid, when collected, is at first perfectly limpid; but, on standing, it becomes opaque, and deposits, after a few hours, a flocculent sediment, which dries into a light powder, of a pale green colour. This is the real elaterium, and purges actively, and even violently, often with vomiting, in doses of the eighth part of a grain; it is also of uniform strength. This mode of preparing the medicine is now pretty generally followed.

Dr. Clutterbuck has furnished to the *Cyclopædia of Practical Medicine*, an article of considerable length, on the subject of *Apoplexy*. In this, it is worthy of remark, he condemns the excessive and almost indiscriminate use of bleeding, which is often practised in the present day.

In addition to the various works above enumerated, he has just completed *A series of Lectures on Blood-letting*, which were delivered from time to time, to his pupils at the General Dispensary, and which have recently appeared, in succession, in the pages of the Medical Gazette. They are about to be published in a separate form, with additions. The subject of blood-letting is here treated of very fully, in regard to its history, mode of acting, and application to different diseases. Dr. C. has had, unquestionably, very extensive opportunities of investigating the effects of this, the most efficient, and, at the same time, the most unequivocal of therapeutic agents; one which, as he observes, is powerful for good or for evil, according to the judgment and discrimination with which it is applied —one, also, we may add, about which the opinions of practitioners are by no means settled at present.

Dr. Clutterbuck has, for a great number of years, occupied a very prominent position as a physician, principally in the city. I formerly enjoyed abundant opportunities of witnessing his practice, and profiting by his judicious observations. As a lecturer, he was interesting, from the adoption of a colloquial style, which secured the attention of his pupils—his voice was always weak and of a low tone, but his words flowed freely, and, without pretending to elegance, were always well chosen, distinct, and perspicuous. His class was a very numerous one, and he was very highly esteemed by his pupils. At the Medical Society of London, he was considered one of the most valuable members; ever ready to communicate information, and paying a deserved regard to the opinions of others. His urbane conduct in the chair, ensured to him the respect of all the members. As a proof of the estimation in which his talents are held, it may, in conclusion, be remarked, that, in 1837, he was solicited to take the medical charge of the Peckham Lunatic Asylum, an establishment which contains three hundred insane patients; and this office he now continues to hold. He was also offered the Fellowship of the Royal College of Physicians: but this he was induced, at this advanced period of his professional career, to decline, along with Sir Alexander Crichton, Dr. Farre, Dr. Hodgkin, Sir James Clark, and others.

John Hunter

JOHN HUNTER, F.R.S.

"One of the Few, Nature's Interpreters,
The Few, whom Genius gives as Lights to shine."
ROGERS.

It has been usual to describe John Hunter as a man of genius. He was such in the strictest sense of the word, if by it is to be understood the combined and collected powers of the mind in all their force and vigour. The term genius is more commonly applied to poets than to philosophers. In the former, the imagination is the faculty in the highest state of excellence; this is, perhaps, unfavourable to the exercise of true judgment, as it does not readily submit to the control of any laws or regulations. A genius observes with a keen eye every object that is around him, and is able to bring all under one point of view, and demonstrate the chain of connexion existing between the several parts. This faculty of *generalization* is, I conceive, one of the strongest proofs of the possession of genius, and herein John Hunter was pre-eminent.

"As in the milky-way a shining white
O'erflows the heavens with one continued light;
That not a single star can show his rays,
Whilst jointly all promote the common blaze."—ADDISON.

A competent authority* tells us that

"The mind of John Hunter was bold and inventive, treading constantly in a path of its own, without regard to the common track which had been followed by others. This was aided by an industry and enthusiasm, of which it would be difficult to find any superior example; with such singular endowments for the cultivation of science, his progress was proportionally great. There is no subject which he had considered, where he has not added new light; and there are many which he has very much improved."

JOHN HUNTER was born at Long-Calderwood, in the county of Lanark, on the 14th of February, 1728.† He was the youngest of ten children, and brother of Dr. William Hunter, of whom an account has been previously given. He was only ten years of age when his father died, and his

* Dr. Baillie.

† The exact date of his birth is somewhat uncertain; his register makes it February 13th; he considered it the 14th, on which day the Hunterian oration is annually delivered at the Royal College of Surgeons. Sir Everard Home, his brother-in-law, states it to be July 14th, 1728.

education was much neglected. He had little aptitude for languages, and spent the greatest part of his time in country amusements. His brother William sent for him to London in 1748, and he became his assistant in the anatomical school. To ascertain his ability for such a task, it is said that William gave him an arm to dissect for the muscles, the perfection of which, for a first attempt, excited much approbation. His whole time was, thenceforth, devoted to dissection, and the acquisition of anatomical knowledge, and of this he so rapidly became master, as to be qualified to demonstrate and teach in the winter of 1749. Mr. Cheselden gave to him the opportunity of learning the rudiments of surgery at Chelsea Hospital; and, in 1751, he became a pupil at St. Bartholomew's Hospital.

In 1753, he entered as a gentleman commoner at St. Mary's Hall, Oxford, probably with the view of embracing physic as a profession; but upon this head his biographers are silent, and he is not reported to have kept any terms. It was, most likely, in accordance with the wishes of his classical brother, that he took this step, rather than by his own inclination, as Sir Anthony Carlisle says, that when a student at the hospital, Hunter said to him in allusion to this period of his life:

> "They wanted to make an old woman of me; or that I should stuff Latin and Greek at the University; but, (added he, significantly pressing his thumb-nail on the table,) these schemes I cracked like so many vermin as they came before me."

In 1754, he entered as a pupil at St. George's Hospital, of which he became the house-surgeon in 1756, having, in the previous year, been admitted to a participation in the lectures delivered by his brother. A very large portion of the anatomical preparations in Dr. W. Hunter's museum, were made by his brother John, and his ability in this matter served to keep the two brothers united much longer than would otherwise have been the case, from the dissimilarity of their dispositions and temper. John Hunter was remarkable for his irascibility through life, and it probably served to shorten the duration of his existence. Dr. V. Knox has endeavoured to account for the irritability by which men of genius have so frequently been distinguished. They are for the most part, he says, in a state of intense thought, while those engaged in matters of less moment, and characterized by less refinement, are often involved in a kind of mental insensibility. As happiness must have its seat in the condition of the mind, it follows that every little accident is likely to disturb the repose of him who is constantly engaged in meditation, as the string which is always kept in a state of tension, will vibrate upon the slightest impulse. "Sensibility of mind, and fineness of feelings, are always the attendants of true genius." This may somewhat account for Hunter's irascibility.

John Hunter's success as an anatomist, has already been noticed in the memoir of his brother, as applied to the elucidation of the hernia congenita, the injection of the testis, the anatomy of the absorbent system, &c.

Other parts of the human body received from him equal development; but his researches were not to be confined to the examination of the human frame. The texture of this wonderful machine is of too delicate and refined a nature, to admit of a satisfactory display of all its parts, or an exhibition of its several functions, without the aid of comparative anatomy. John Hunter's views extended to the whole empire of nature: he perceived, with Seneca, that she does not confine her operations to one form, but delights in variety; that she renews one figure out of another, and, not contented with uniformity in procedure, rejoices in undiminished power. The Hunterian Museum at the Royal College of Surgeons, shows to what an extent he carried his views, and presents altogether one of the most extraordinary efforts of human labour, directed by transcendent genius, ever presented to the world. This museum, so worthily deposited at the College, to which it was presented by the Government, is annually the subject of eulogy, by the establishment of a commemorative oration delivered before the members of the College, which is usually afterwards submitted to the press. The most eminent of the surgical profession have thus recorded the opinions they entertain of the labours of John Hunter; yet the subject is not exhausted, for it is indeed inexhaustible. The principal events of his life are well known, as they have been recorded by various biographers and eulogists, and renders other than a general notice of his discoveries in this work unnecessary. Yet to enumerate these alone would require a volume. There is no branch of anatomical or physiological inquiry that he has not enlightened, and there is no subject of surgery or medicine to which his researches may not lend a powerful assistance. His observations are all based upon general principles, drawn from the most attentive and scrutinizing observation of nature in all her operations; and all, from the huge mammoth to the most diminutive insect, have been rendered tributary to his fund of knowledge.

His exertions were greater than his health would permit, and, being threatened with a pulmonary affection, he was advised to go abroad. Mr. Adair appointed him surgeon on the staff, and in 1761 he joined the army, and went to Belleisle, leaving Mr. Hewson as the assistant to his brother in the anatomical lectures. He remained with the army as senior surgeon at Belleisle, and afterwards in Portugal, during three years; and this afforded him an opportunity of acquiring a knowledge of gun-shot wounds, the consideration of which is incorporated in his work on the blood and inflammation.

Returned to England, he settled in London, lectured on practical anatomy and operative surgery, and pursued his anatomical and physiological inquiries with unabated ardour. He built a house at Earl's Court near Brompton, and there kept numerous animals, to observe their instincts, and to make experiments illustrative of the subjects under his consideration.

His attachment to animals was great, and Sir E. Home has told us some anecdotes, to show what risks this passion led him to undergo.

"Two leopards, which were kept chained in an out-house, had broken from their confinement, and got into the yard among some dogs, which they immediately attacked; the howling this produced alarmed the whole neighbourhood; Mr. Hunter ran into the yard to see what was the matter, and found one of them getting up the wall to make his escape, the other surrounded by the dogs; he immediately laid hold of them both, and carried them back to their den; but as soon as they were secured, and he had time to reflect upon the risk of his own situation, he was so much agitated, that he was in danger of fainting."

"The fiercer animals were those to which he was most partial, and he had several of the bull kind from different parts of the world. Among these was a beautiful small bull he had received from the queen, with which he used to w estle in play, and entertain himself with its exertions in its own defence. In one of these contests the bull overpowered him, and got him down, and, had not one of the servants accidentally come by and frightened the animal away, this frolic would probably have cost him his life."

In 1767 he was elected a Fellow of the Royal Society; and he contributed to the Philosophical Transactions various papers independently of those communicated by Sir E. Home, and furnished as supplements to the writings of others. I shall notice these in the order of their appearance.

1766. *Supplementary Paper to Mr. Ellis's Account of an Amphibious Bipes*, of which he gives the anatomy.

1772. *On the Digestion of the Stomach after Death.* An important communication, demonstrating the action of the gastric juice upon the organ after the extinction of vitality, and frequently observed in cases of sudden death. Prior to the time of Mr. Hunter, it was looked upon as a morbid appearance, and the death of the individual was falsely attributed to this condition.

1773. *Anatomical Observations on the Torpedo.* This is a contribution to illustrate Mr. Walsh's papers. He displays the electric organs of the animal which are situated on each side of the cranium and gills, occupying a considerable space, being five inches in length and three in breadth at the anterior part. The perpendicular columns by which this extraordinary effect is produced vary in size and shape, and appear to be about 470 in each organ; but their number depends upon the size of the fish. The nerves supplying these parts are of very great size. The preparations are in the Hunterian Museum.

1774. *An Account of certain Receptacles of Air in Birds which communicate with the Lungs, and are lodged both among the fleshy parts and in the hollow bones of these animals.* Never fully described, or their connexions pointed out, until by Mr. Hunter.

1774. *Observations on the Gillaroo Trout, commonly called in Ireland the Gizzard Trout.* In this paper he takes a view of the digestive organs of animals. He shows that in the Gillaroo trout the stomach is adapted

to breaking the shells of small shell-fish; but that it does not possess the power of grinding. He, therefore, considers it a true stomach for the office of digestion, and not a gizzard, as in birds.

1775. *An Account of the Gymnotus Electricus.* The electrical organs constitute more than one-third of the entire animal.

1775. *Experiments on Animals and Vegetables, with respect to their power of producing Heat.* His object in these experiments was to ascertain whether an animal could retain life after it was frozen, as had been asserted of fishes and snakes, which he determines in the negative.

1776. *Proposals for the Recovery of People apparently Drowned.* He looks upon a drowned person as one in a trance, though a recovery of the latter is more likely to take place than the former. In both, he says, "the action of life is suspended, without the power being destroyed." In this paper he intimates his opinions relative to the life of the blood.

1779. *Account of the Free Martin.* He gives an anatomical description of three, and shows them to be hermaphrodites, differing from each other, as is the case in hermophrodites in other tribes.

1780. *Account of a Woman who had the Small-Pox during Pregnancy, and who seemed to have communicated the same Disease to the Fœtus.* Small-pox pustules were found upon the body at the birth of the child.

1780. *Account of an Extraordinary Pheasant.* Mr. Hunter attributes the appearance of the plumage of the cock on the hen bird to the result of age and the cessation of breeding; but it has since been found to be connected with a disease of the ovary.

1782. *Account of the organ of Hearing in Fish.*

1784. *Anatomical Remarks upon a New Marine Animal.* This is a Postscript to a Paper by Mr. Home, describing the *Double-coned Terebella.*

1787. *Observations tending to show that the Wolf, Jackal, and Dog are of the same species.*

1787. *An Experiment to determine the effect of Extirpating one Ovarium upon the number of Young produced.* He concludes, that

> "The ovaria are, from the beginning, destined to produce a fixed number, beyond which they cannot go, although circumstances may tend to diminish that number; that the constitution at large has no power of giving to one ovarium the power of propagating equal to two; for, in the present experiment, the animal with one ovarium produced ten pigs less than half the number brought forth by the pig with both ovaria. But that the constitution has so far a power of influencing one ovarium, as to make it produce its number in a less time than would probably have been the case if both ovaria had been preserved, is evident from the above-recited experiment."

1787. *Observations on the Structure and Economy of Whales.* This is an extended paper on a most interesting subject of natural history.

1789. *A Supplementary Letter on the Identity of the Species of the Dog, Wolf, and Jackal.*

1792. *Observations on Bees.* I have noticed his attention to the habits

and instincts of animals at his house at Earl's Court. This paper gives an account of some of his observations.

1793. *Observations on the Fossil Bones presented to the Royal Society by the Margrave of Anspach.* These were principally of the bear species.

He also delivered the Croonian Lectures, on Muscular Action, for the years 1776, 1778, 1780, 1781, and 1782. These were not, however, published, being regarded by their author as incomplete. He received from the President and Council the Copley medal, in 1787, for his contributions to the Royal Society.

It will, probably, surprise, as it will amuse, some of my readers, to learn that in 1767, John Hunter met with an accident in dancing. He broke the *Tendo Achillis.* The occurrence of this injury served to promote the ends of science—his attention was directed to the particular nature of the accident, and he set about a series of experiments to ascertain in what manner nature repaired such an accident, and his preparations demonstrated it to be by an ossific union. In the ensuing year he became a Member of the Corporation of Surgeons, and was engaged in private practice, occupying the house formerly inhabited by his brother, in Jermyn-street. He received pupils into his house, and among other celebrated men, the late Dr. Jenner. The congeniality of their minds failed not to promote an intimacy, and to maintain an intercourse through life. In the memoir of Jenner, I have recorded a few circumstances illustrative of this, and many more may be found in the life of that estimable man, by Dr. Baron, and in a life of Hunter by Mr. Drewry Ottley, prefixed to Mr. Palmer's edition of the works of John Hunter. In 1768, upon the death of Mr. Gataker, he was elected one of the Surgeons of St. George's Hospital.

In 1771, he published his work on *The Natural History of the Human Teeth;* and seven years afterwards, a supplementary volume, *A Practical Treatise on the Diseases of the Teeth.* This work merits notice, as being the first of any extent, treating the subject in a scientific manner. The accuracy of Hunter's observations are apparent throughout, and although the more perfect work of Professor Bell may now supersede its use, it will yet remain as one of the evidences of the philosophical mind of its author. The work was translated into Dutch, and published at Dordrecht in 1773.

In 1773, he commenced as a lecturer on the theory and principles of surgery; and for two seasons he delivered these gratuitously. He was unsuccessful as a lecturer. His want of education, indifferent as he seems to have been upon the matter, was here severely felt, and he appeared in powerful contrast with his eloquent brother. Sir E. Home, who was his apprentice, as well as his relation, has spoken of his anxiety in the performance of the duties appertaining to him as a lecturer. He says,

"He never gave the first lecture of his course, without taking thirty drops of laudanum to take off the effects of his uneasiness. He was so diffident of himself,

that he trusted nothing to memory, and made me draw up a short abstract of each lecture, which he read on the following evening as a recapitulation, to connect the subject in the minds of the students."

As a lecturer, Hunter's manner was bad, his language embarrassed, and altogether inelegant; he scarcely raised his eyes from his book, and he much fatigued his class, which was never a numerous one, not exceeding thirty. Hunter was, however, too anxious to display his own views and opinions, and too sensible of the advantages to be derived by the practice of teaching, to give up an engagement, in a pecuniary view certainly of no consequence. Those only who have lectured, can be sensible of the amount of labour required to keep pace with all existing knowledge, upon the various subjects for consideration, and the advantage derivable from the necessity of exertion thus created. There is much sound sense in the advice of Erasmus, when he says, Teach others also; for by no means will you better discover what you understand, and what not. And, in the mean time, new ideas occur to you while you are enumerating and discoursing. *Alios quoque doceas; nusquam enim melius deprehenderis quid intelligas, quid non. Atque interim nova quædam occurrunt commentanti disserentique.* And Fichetus adds, that to procure solid learning, the safest and surest method is to teach; for to be able to teach, is a sign a man understands things himself; and it is also the surest step to knowledge. *Ad comparandam solidam doctrinam via tutissima certissimaque est docere: Signum enim scientis est posse docere, imo et gradus ad scientiam firmissimus.* Hunter compared the process of preparing a lecture, to that of a man taking stock—it enabled him to ascertain the amount of knowledge he possessed upon any given subject.

In 1776, Hunter was appointed Surgeon Extraordinary to the King; and in this year his health suffered so much, that he could not refrain from reflecting upon the condition in which he might probably leave his family, dependent entirely upon the produce of the sale of his museum, to which all his pecuniary acquisitions had been devoted. This determined him to commence a catalogue, and to complete an arrangement of the collection. Mr. Bell, an artist of considerable talent, a resident in Mr. Hunter's house, engaged by him to make drawings of the minute anatomical specimens and preparations illustrative of morbid anatomy, and Mr., afterwards Sir Everard Home, were principally engaged in this labour. A residence for some time at Bath, served to restore Mr. Hunter to health.

In 1783, he removed to Leicester Square, and erected a building, (now containing the museum of the Zoological Society,) for his collection, which occupied a room of fifty-two feet in length, and twenty-eight feet wide, with a gallery all round to contain preparations. Here were accustomed to assemble all who were distinguished for the promotion of literature, science, or the arts; and here were exhibited all that was rare of the productions

of the three kingdoms of nature, introduced into this country. By the familiar interchange of discourse thus effected, Hunter acquired much information, for of him it may be said as of Lord Bacon, that, "in his conversations he contemned no man's observations; but would light his torch at every man's candle." The Lyceum Medicum Londinense, was established in these rooms, which, for many years, was a very flourishing Medical Society.

In 1784, Mr. Hunter contributed to the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, *Observations on the Inflammation of the internal Coats of Veins.* At the time of publication of this paper, the subject of inflammation of the veins was very ill understood. Mr. Hunter lent his powerful aid to the explanation of it, and the later researches of Dr. D. Davis, Dr. Robert Lee, and others, have satisfactorily illustrated this morbid condition. In the same volume of the Transactions, there is a paper *On Introsusception; and a Case of Paralysis of the Muscles of Deglutition, cured by an artificial mode of conveying Food and Medicines into the Stomach.* The former case he considers as capable of being produced either upwards or downwards: the former he terms retrograde; the latter, progressive. A minute attention to the structure of the intestines has enabled him to describe with great precision, the condition of parts in an introsusception; the latter paper gives an account of the mode of administering food and medicines, by means of a tube conveyed into the stomach, a practice now of daily occurrence; but, I believe, not attempted in the human subject before the time of John Hunter. This volume contains also a paper by Mr. Home, detailing John Hunter's *Operation for the Cure of Popliteal Aneurism*, which must be regarded as a very great improvement in the treatment of that disease. Prior to Mr. Hunter's time, the operation for aneurism was highly dangerous, for it consisted in nothing short of cutting into the sac, removing the coagula, and endeavouring to secure the bleeding extremities of the vessel, or in applying the actual cautery or compresses to suppress the hæmorrhage. Hunter was the first to apply a ligature on a sound part of the trunk of the aneurismal vessel, at a distance from the seat of the disease, and between it and the heart—in this way to annihilate the circulation of the blood through the ordinary channel. The simplicity and comparative safety of this mode of treatment, deservedly places Hunter's method as one of the greatest improvements in modern surgery. The first case in which he tied the femoral artery for a popliteal aneurism, was in December, 1785, at St. George's Hospital. The paper I have noticed, contains an account of this case. The practice thus established upon the femoral artery, in cases of popliteal aneurism, has led to its adoption in almost all the other arteries of the body; and the resources of nature in carrying on the circulation, even when the aorta has been tied, has been shown in the memoir of Sir A. P. Cooper, Bart.

In the *second* volume of the Transactions there is *The Case of a Young Woman who poisoned herself in the first month of her Pregnancy; and Experiments and Observations on the Growth of Bones.* The former of these presents an interesting account of the condition of the uterus and its appendages in a very early period of pregnancy; the latter is arranged by Mr. Home, from the manuscript of Mr. Hunter, and its object is to show that the growth of bones is not, as stated by Duhamel, by an extension of their parts; but by two processes going on at the same time, and assisting each other—the arteries bringing the supply to the bone for its increase, and the absorbents removing portions of the old bone, so as to give to the new its proper form. The experiments referred to are those principally derived from animals fed upon food having madder intermixed with it, by which a colour is given to the solid parts of the animal. If, therefore, an animal be fed upon this kind of aliment for a time—then upon food without the addition of the colouring matter—then again with that having madder, according to the process of increase which is perpetually going on in the living frame, we ought to have in distinct layers the deposition of bone, varying in appearance according to the food given. Such, indeed, are the effects observable in Mr. Hunter's experiments, the preparations illustrative of which are in the Hunterian Museum. But not to John Hunter is due the discovery of this condition, for I am informed by Sir A. Cooper, that Mr. Cline was in the habit of mentioning in his lectures, that Mr. Belchier, surgeon of Guy's Hospital, who died in 1785, at the age of seventy-nine, first ascertained the fact, and in an accidental manner, from dining with a wealthy patient, by trade a calico-printer. The bones of the pork exhibited at this repast had an unusually high colour, sufficient to attract the surgeon's attention, and to direct him to make inquiry as to the cause of it: the calico-printer observed that his pork always presented that appearance, and that he fed the animals in the yard attached to the dyeing-house—it was found that their food was frequently mixed with the madder employed in his business, and thus the redness was accounted for.

In 1786 Mr. Hunter was made Deputy Surgeon-General to the army, and in the same year he published his *Treatise on the Venereal Disease.* Much was expected by the profession from the author on this important subject, and he was exceedingly anxious that the work should appear in as correct a state as possible. It was therefore submitted to the revision of some of his medical friends, among whom I may mention Dr. Fordyce, Dr. David Pitcairn, Dr. Marshal, and Sir Gilbert Blane. Mr. Hunter contends for the specific nature of the disease, and the test of its character he founds upon the effect produced by the exhibition of mercury to stop its ravages. He held it to be necessarily and progressively destructive unless checked by mercury: this opinion has in later times been much questioned, and few in the present day are to be met with who will admit of its infallibility. From one extreme we are very prone to run into the opposite, and some modern

practitioners have gone so far as to abandon the use of mercury altogether in the cure of this complaint. I am not an advocate of such practice, having seen too much of the ill effects arising from it; and I can venture to recommend Mr. Hunter's work as one, though not complete upon the subject, yet abounding with the most sagacious and valuable observations.

In the same year he also published *Observations on certain parts of the Animal Economy*, a second edition of which appeared in 1792. This volume contains several of his papers previously printed in the Philosophical Transactions, with important additions. This work may fairly be considered as one of the best of Mr. Hunter's productions. In it will be found, in addition to his amended papers laid before the Royal Society, his description of the vesiculæ seminales; his account of the descent of the testis; of the structure of the placenta;* some further observations on digestion; on a secretion in the crop of breeding pigeons for the nourishment of their young; on the colour of the pigmentum nigrum in different animals; the use of the oblique muscles; a description of the nerves which supply the organ of smelling; and a description of some branches of the fifth pair of nerves:—which altogether display his profound acquaintance with anatomy and physiology.

In this year he was again affected by severe illness, and was unable to attend to any of his professional labours. These frequent attacks must be attributed, in some measure, to his extraordinary application, for he was one of those alluded to by the poet,

> "Who not to sleep allow'd the needful time,
> To whom repose was loss, and sport a crime."

Mr. Thomas confirms this statement:

"Upon my first arrival in London, (says he,) on presenting a letter of introduction from a mutual friend, he desired to see me at five the next morning! Having already the highest respect for his great professional talents, it may be easily imagined to what a height my curiosity was raised by so extraordinary an appointment: no one will doubt my punctuality of attendance. I found him in his museum, busily engaged in the dissection of insects. The interest which he seemed to take in his employment—the sagacity of his observations on it—the acuteness of his general remarks upon whatever subject was started—the almost blunt manner in which he questioned me respecting my medical education, united to the kindness of his admonitions relative to my future plans, made a very forcible impression on my mind: it was a mingled feeling of profound respect, surprise, and admiration."

* The differences between William and John Hunter, which unfortunately continued to nearly the close of their lives, arose from a misunderstanding relative to the mode of connexion between the placenta and uterus, to the discovery of which both brothers laid claim. The letters relating to this subject in the archives of the Royal Society I have perused; but from these it is not possible to decide upon the merits of the question, though I must confess that my leaning is decidedly in favour of Dr. Hunter.

He seldom slept beyond four hours in the night, but he took an hour after dinner.

From the period of this attack he could never be said to have again enjoyed perfect health: an affection of the heart, consequent upon every agitation of his mind, or considerable effort of body, ensued; and gave rise to the most serious apprehensions. Mr. Home now became his constant private assistant, and the governors of St. George's Hospital yielded to Mr. Hunter's solicitation, and appointed him Mr. Hunter's assistant-surgeon at the hospital. At the same time Mr. Keate was made assistant to Mr. Gunning. Mr. Home also relieved Mr. Hunter of the fatigue attending the delivery of his regular course of lectures, and Mr. Hunter devoted himself to the correction of his papers. He also engaged in collecting materials for an enlarged surgical course, but he did not live to carry his views into effect. Upon the decease of Mr. Adair, he received the appointment of Surgeon-General to the Army, and Inspector-General of Hospitals.

In 1790, Mr. Hunter contributed some important matter, as an appendix to a Journal of a Voyage to New South Wales, by John White, Esq., Surgeon-General to the colony. This consists of

1. *General Observations on the mode of collecting and sending home animals, and on the nomenclature and classification of animals.*—2. *Description of the Kangaroo.*—3. *Description of the Wha Tupoau Roo.*—4. *Description of the Dingo, or Wild Dog of Australia.*—5. *Description of the Tapoa Tafa, or Tapha.*—6. *Description of the Poto Roo, or Kangaroo Rat.*—7. *Description of the Hepoona Roo.*

Mr. Hunter also contributed some *Observations concerning the Anatomy of the Camel's Stomach, and some Notes on the Anatomy of the Jerboa,* to Dr. A. Russell's Natural History of Aleppo.

Sir. E. Home has recorded the particulars of Mr. Hunter's disease and death, many of which were derived from his own dictation. The account exhibits the history of a complete case of angina pectoris, or that affection which is frequently found to arise from an ossified condition of the coronary arteries of the heart. This had been long foreseen by his friends, and affections of the mind operated powerfully in hurrying on the fatal issue.

> "———— Disease augmenting year by year,
> Show'd the grim king by gradual steps brought near."

Yet it was sudden—awfully sudden. On the 16th of October, 1793, he went to attend a Board at St. George's Hospital, and there being irritated by some circumstances, (the particulars of which may be found in Mr. Ottley's Life of John Hunter, p. 126,) he withdrew from the committee-room into an adjoining apartment, and, turning round towards one of the physicians, (Dr. Robertson,) he gave a deep groan, and dropt down dead. His existence thus terminated in the sixty-fifth year of his age. His claims to the

regard and veneration of mankind, are unbounded. In his own particular department, there is not a branch that he has not improved, and his investigations have laid the basis of many glorious improvements, that have since been put forth and established. To estimate correctly that which is due to John Hunter, it is necessary to look back to the state of surgery in his time, and to contrast the practice of it with that of the present day. In no one point is greater evidence afforded of the progress of surgical science, than in the diminution of the performance of serious operations. Where one is now executed, twenty were then determined upon. No man felt more the opprobrium upon the art, in the necessity of operations, than John Hunter; he esteemed every one as a reproach upon the science, which had not reached sufficient perfection to work a cure, except by the removal of a part of the frame. "To perform an operation, (says he,) is to mutilate a patient we cannot cure; it should, therefore, be considered as an acknowledgment of the imperfection of our art." His views were directed to correct this necessity, and he endeavoured, by a contemplation of the various phenomena which distinguish living beings, so to direct the operations of nature, that reparation might be effected by a return to healthy action.

In the course of this memoir, I have had occasion to allude to Mr. Hunter's irascibility. He had no command over his temper, yet he was not wanting in sensibility or benevolence of heart. He was solicitous to advance the fortunes of his most meritorious pupils; he offered to Jenner to accompany Captain Cook upon his voyage of discovery, and he recommended Mr. Thomas as assistant-surgeon to Earl Macartney, Ambassador to China. His speech was rude, and he habituated himself to the disgusting practice of swearing, which, in his day, however, was not of uncommon occurrence. He was of temperate habits, particularly during the latter part of life, in which he drank no wine. This was, probably, necessary from attacks of gout, to which he was liable. In the acceptance of fees from his patients, he was very considerate, particularly towards professional men of all descriptions, and he has been known to return fees, where he found his patients in embarrassed circumstances. As an operator, he has been variously described. In the performance of these painful parts of a surgeon's duty, he appears to have been "slow and sure." His knowledge of anatomy would necessarily give security in these undertakings. His personal appearance has been thus described:

"He was about the middle stature, of a vigorous and robust frame, and free from corpulency; his shoulders were high, and his neck short. His features were rather large, and strongly marked; his eyebrow projecting, his eyes of a light colour, his cheeks high, and his mouth somewhat under-hung. In dress, he was plain and gentlemanlike; and his hair, which in youth was of a reddish yellow, and in his latter years white, he wore curled behind."

This will be seen to correspond very accurately with the portrait which accompanies this memoir. It was executed by Mr. Home, brother of Sir

E. Home, and belongs to Mrs. Baillie, by whose very kind permission, I have been enabled to have it engraved. The favourite portrait of John Hunter is, unquestionably, that very fine work of art by Sir Joshua Reynolds, engraved by W. Sharp. This is in every way a *chef-d'œuvre*, and the original picture is very appropriately placed in the Council-room of the Royal College of Surgeons. I am happy to deviate from the order established for the portraits in this work, by adding to this memoir, an admirably reduced engraving from this celebrated picture.

John Hunter was buried in a very private manner, in the Church of St. Martin in the Fields, being followed to the grave by a few only of his medical friends. He married Miss Home in 1771, who is described as "an agreeable, clever, and handsome woman, a little of a *bas bleu*, and rather fond of gay society, a taste which occasionally interfered with her husband's more philosophic pursuits." She was anxious, after his decease, to have erected a monument to her husband's memory in Westminster Abbey, but the fees demanded for the permission to place him in a reserved niche among the great geniuses of this country, were too great to admit of it, and the intention was given up. Whilst, however, the Hunterian museum shall remain, John Hunter requires no other monument.

At the time of Mr. Hunter's death, he had in the press his long-promised *Treatise on the Blood, Inflammation, and Gun-shot Wounds.* About one-third had been printed, and the completion of the whole devolved upon Sir. E. Home, who has prefixed to the work a biographical memoir of his renowned master. Less care has been bestowed upon this publication than any other of Mr. Hunter's works; and it is exceedingly to be regretted, for much of it is very obscure. The subjects treated of, are of the highest consequence in a physiological and surgical point of view; and the information contained in various parts, is of the most valuable kind. It gives the strongest proofs of Hunter's originality of thought, and patience of investigation, to which it would be difficult to find a parallel. Many of his peculiar doctrines, to which I have alluded in the memoirs of others, are contained in it; and altogether it may be said, that, however defective it may be as to composition, and however inaccurate as to printing, it is, nevertheless, a work without which no medical library can be considered complete. As opportunities will repeatedly offer to refer to this publication, I forbear to extend the present notice.

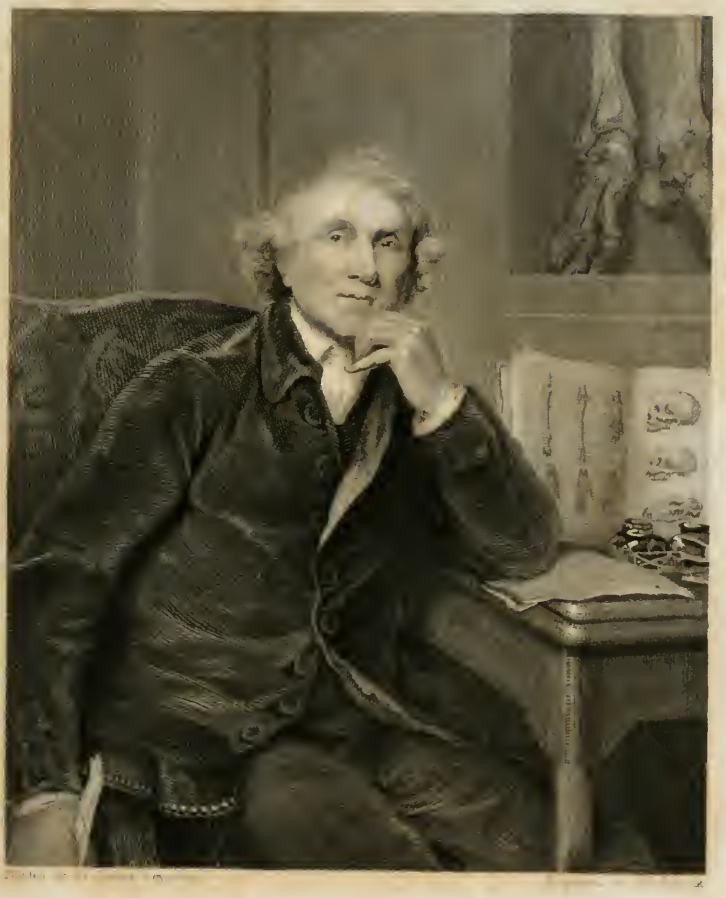
Sir Everard Home has regretted that Mr. Hunter was so tardy in giving his observations to the public, and has endeavoured to account for the delay by his turn for investigation, the extensive scale upon which he conducted his inquiries, by which he always found that something more was to be accomplished, and his great unwillingness that any thing from him should appear at all unfinished. It is, indeed, much to be lamented, that Mr. H. was thus scrupulous in committing to the press the results of his inquiries—it would have been not only for the interests of science that

he should have done so, but also for the character and fame of his biographer, whose conduct, in the destruction of his brother-in-law's papers, is truly indefensible. *Utinam falsò jactaretur.* Every line written by John Hunter, and bearing relation to his museum, was public property, and not subject to the control of any private individual. Justice compels the mention of this painful subject, the particulars of which were detailed in evidence before a committee of the House of Commons, by Mr. Clift, in 1834.

That Mr. Hunter should have been enrolled in the lists of the members of several foreign academies, may easily be surmised. I find that in 1781, he was made a Member of the Royal Society of Belles Lettres of Gottenburgh; in 1783, of the Royal Society of Medicine, and of the Royal Academy of Surgery, of Paris; in 1787, of the American Philosophical Society; and, in 1792, of the Royal College of Surgeons in Ireland; and of the Chirurgo-Physical Society of Edinburgh. He was one of the Vice-Presidents of the Veterinary College, upon its establishment in 1792.

The Hunterian museum has been frequently described. Catalogues are in the course of publication by the Royal College of Surgeons, of its various parts by Mr. Clift and Professor Owen, under the guidance of the trustees and the board of Curators, and will form an exceedingly valuable contribution to anatomical, physiological, and medical science, as well as to natural history in general. It is sufficient here to state, that the museum was purchased by the government, of Mr. Hunter's family, for the sum of £15,000, (though Mr. H., as he told Mr. Lynn, expended no less than £70,000 upon it,) and was presented to the Royal College of Surgeons upon certain conditions, namely, to preserve the collection at their own expense—to have it open to the Fellows of the Royal College of Physicians, to the Members of the Royal College of Surgeons, and to persons properly introduced—the preparation of a proper catalogue—officers to explain the collection—and an annual course of twenty-four lectures on comparative anatomy, to be illustrated by the collection. In 1806, a grant by government of £15,000 was made, to assist in the erection of a proper building for the museum, theatre, &c., and, in 1810, a further sum of £12,500.

I cannot close this brief memoir without referring the reader to an edition lately published of the Works of John Hunter, edited by Mr. J. F. Palmer. The writings of this distinguished physiologist have been most carefully rendered, and are illustrated by appropriate notes and references. No undue partiality is manifested for the opinions of Mr. Hunter, nor are his errors or defects attempted to be defended. In addition to the published works, this edition contains a full and collated copy of Mr. Hunter's Surgical and Croonian lectures.



JOHN HUNTER

John Hunter

William Hunter.

WILLIAM HUNTER, M.D. F.R.S.

"Mark him well;
He meditates, his head upon his hand." ROGERS.

WILLIAM HUNTER was born on the 23d of May, 1718, at Long Calderwood, in the parish of Kilbride, in the county of Lanark. He received his education at the college of Glasgow, whither he was sent at the age of fourteen. His conduct, during a period of five years, insured to him the esteem of the professors, and he had the reputation of being a good scholar. His education was regulated with a view to the church, which, however, he did not enter, from, it is said, the repugnance he felt to subscribing to the articles of faith, and a disinclination of, or rather insuperable aversion to, theological pursuits. An acquaintance with the celebrated Dr. Cullen, at Hamilton, determined him to devote his attention to physic; and in 1737 he took up his residence for three years with this eminent physician. After this he prosecuted his studies at Edinburgh, intending to return to Hamilton, and settle in partnership with Dr. Cullen. Dr. Simmons has reported of his manners and disposition, as told to him by Dr. Cullen, who says that "his conversation was remarkably lively and agreeable, and his whole conduct at the same time more strictly and steadily correct than that of any other young person he had ever known." This cheerfulness and prudence appears to have accompanied him through life.

In 1741 he went to London, still further to prosecute his medical studies, and took up his residence with Mr., afterwards Dr. Smellie, well known by his works on midwifery. Mr. S. was at this time an apothecary practising in Pall Mall. William Hunter brought with him a letter of introduction from Mr. Foulis, the celebrated classical printer, at Glasgow, to Dr. James Douglas, who being at that time engaged in the preparation of a large anatomical work, readily availed himself of the abilities and industry of young Hunter, and engaged him to assist in his dissections, and also to undertake the superintendence of the education of his son. He now entered himself a surgeon's pupil at St. George's Hospital, under Mr. James Wilkie, and a dissecting pupil under Dr. Frank Nicholls, at that time the most distinguished anatomist of the day. Several of the preparations made by Hunter were engraved at the expense of Dr. D. who, however, never completed his work, as he died in April 1742,—a severe loss to Hunter, at this early period of his professional career.

The first paper I can trace as the product of William Hunter's pen is printed in the 42nd volume of the Philosophical Transactions. *On the Structure and Diseases of Articulating Cartilages.* This paper contains a very accurate description of the membrane covering the cartilages, describes the changes they undergo in ulceration, and accounts for the cure of their

diseases by anchylosis, upon principles conformable to the nature and structure of the parts affected.

William Hunter was assiduously engaged in making anatomical preparations, and deriving such knowledge as might fit him to become a teacher, which appears to have been his object of ambition. He communicated this to Dr. Nicholls, who had declined his lectures about this time in favour of Dr. Lawrence, a most excellent scholar, the author of the life of Dr. N., one of the purest and very best Latin works in or relating to medical science. Dr. Nicholls did not offer much encouragement to Hunter, and his course as a teacher seems to have been determined by a society of naval surgeons, who had engaged an apartment in Covent Garden, where they had invited Mr. Samuel Sharp to deliver to them a course of lectures on the operations of surgery. This gentleman, whose "Critical Inquiry," and other works in surgery, are so well known and so highly esteemed, repeated his course, until, finding it interfere too much with his other professional pursuits, he declined the task in favour of Hunter, who succeeded so much to the satisfaction of his class, that they desired an extension of the course to anatomy; and in the winter of 1746 he commenced as an anatomical lecturer. His success was very gratifying. On August 6,1747, he became a member of the Corporation of Surgeons, and shortly after he made a tour through Holland to Paris. At Leyden he became acquainted with Albinus, and examined his preparations, the beauty of which served to stimulate him to further exertions. He returned to London, to deliver his winter course of lectures. His practical labours embraced surgery and midwifery: to the former he entertained an aversion; and his particular cultivation of the latter is probably to be ascribed to his connexion with Smellie and Douglas. In 1748 he was appointed surgeon-man-midwife to the Middlesex Hospital, and in 1749 to the British Lying-in Hospital, so that he enjoyed abundant opportunities of acquiring information in the branch of medical science he had particularly selected. He rose rapidly in his profession, his person and manners uniting with his anatomical talents to advance him into notice. Sir Richard Manningham and Dr. Sandys at this time principally divided the practice of midwifery among the higher ranks of society; the former, who established a lying-in ward in St. James's Parochial Infirmary, (the first of the kind,) and lectured on midwifery, died; and the latter, who is named by Hunter as the discoverer of the *membrana pupillaris*, shortly after retired from practice. Dr. Sandys had a fine collection of anatomical preparations, which were purchased by Mr. Bromfield, and afterwards sold to Hunter for £200. The injected specimens were very fine, and Dr. Sandys is the first to have rendered them pellucid by the aid of spirits of turpentine.

William Hunter took a diploma of Doctor of Physic at the university of Glasgow, October 24, 1750, and from this time entirely abandoned the practice of general surgery. He commenced as a physician and accoucheur

in Jermyn street. In 1756 he was admitted a licentiate of the college of physicians, and elected a member of the Society of Physicians, whence issued the "Medical Observations and Inquiries." To this collection he contributed ten papers:

1. *The history of an Aneurism of the Aorta, with some remarks on Aneurisms in general.* This case terminated fatally by an external opening. In the remarks following the detail of the case, Dr. Hunter divides aneurisms into three kinds: 1. *True*, or those produced by dilatation; 2. *false*, or those occasioned by rupture; and, 3. *mixed*, being those in which both of these causes combine to produce the disease. Dr. H. is the first to describe the aneurism now generally known since the time of Cleghorn as the *aneurismal varix*, in which a communication exists between an artery and a vein, occasioned by puncture into the former through the latter, which accident has frequently occurred in the ordinary operation for phlebotomy, in persons where the high division of the brachial artery is found to exist, and the surgeon has been inattentive to such a distribution of the vessels.

2. *The History of an Emphysema.* This case arose from the fracture of a rib, and the effusion of air into the cellular membrane, extended over the whole of the body; but in the hands and feet it was inconsiderable. Incisions made in various parts relieved the patient. The case led to some important remarks on the cellular membrane, and some of its diseases.

3. *Remarks on the Symphysis of the Ossa Pubis.*

4. *Further Observations upon a particular species of Aneurism*, (the Aneurismal Varix.)

5. *Postscript to a Case of the Varicose Aneurism.*

6. *Appendix to a Case of Retroverted Uterus.*

7. *Summary Remarks on the Retroverted Uterus.* The precise nature of this affection was not distinctly known prior to Dr. Hunter's description of it in his lectures in 1754, and afterwards in the "Medical Observations and Inquiries."

8. *On the Uncertainty of the Signs of Murder in the case of Bastard Children.* This paper reflects great credit upon the humanity of Dr. H.'s character. His views upon the subject of infanticide, and the evidence by which it is to be determined, are entitled to every attention by the student of medical jurisprudence. He was the first to demonstate the futility of the opinion, that if the lungs floated in water, the child must necessarily have been born alive.

9. *Three Cases of Mal-conformation of the Heart.* The first related to a preternatural conformation of the pulmonary artery, which, at its beginning from the right ventricle, was contracted into a solid substance or cord, absolutely and completely impervious; so that the lungs had not received one drop of blood from the heart by the trunk of the pulmonary artery. The child lived thirteen days. The second case was of a somewhat similar character; the pulmonary artery was so small at its beginning,

that it would barely give passage to a small probe; and the septum cordis was deficient, or perforated at the basis of the heart, so as to allow Dr. H.'s thumb, (a small one,) to pass across from one ventricle to the other, the orifice of the aorta being close to the perforation, so as to receive the blood from the right ventricle as well as from the left. This child lived thirteen years. The third case was of a still-born child at six months, the preparation of which was in Dr. H.'s museum. There was an opening of communication between the two ventricles, by which the blood of one cavity could pass into the other, without going through the usual circuit of the vessels.

10. *The successful cure of a severe disorder of the stomach by milk taken in small quantities at once.* A severe case of vomiting without any assignable cause, and cured by repeated exhibitions of very small quantities of milk, by which the frame of the patient was supported until he was able to take solid food.

In 1762, Dr. Hunter published, *Medical Commentaries, Part I., containing a Plain and Direct Answer to Professor Monro, jun. interspersed with Remarks on the Structure, Functions, and Diseases of several parts of the Human Body.* This was intended to be the first of a series of observations in anatomy, surgery, and midwifery; but the design was not perfected. This part is indeed principally controversial, and relates to claims made by Dr. Monro, jun. regarding some discoveries in the lymphatic system, the ducts of the lachrymal gland, &c.

One of the points in dispute related to the injection of the tubuli testis. Dr. Monro filled them with quicksilver in 1753; Dr. Hunter had done it a year previously; but Haller made and published the discovery in 1745. So, with respect to the ducts of the lachrymal gland—they were observed in the ox and in the sheep by Steno; Santorini and Winslow saw them in the human subject; but their existence was a matter of dispute when Hunter commenced lecturing on anatomy. He succeeded, however, in introducing some bristles into them in 1747, and Dr. Monro appears to have done the same in 1753. The priority is, therefore, due to Hunter. These are mere matters of observation, and of less importance than the points in dispute relative to the lymphatic system, involving opinions as to the doctrine of venous absorption. In a previous Memoir, (that of Dr. Akenside,) I have already alluded to this dispute, and it would, perhaps, be useless to pursue it further. The majority of professional men have declared in favour of the claims of Hunter, rather than those of Monro.

The eighth chapter of the "Commentaries" treats of the discovery of the membrana pupillaris, and of the insensibility of the tendons, &c. Dr. Hunter attributes the discovery of the membrane to Dr. Sandys; but he believes the claims of Wachendorf, Haller, and Albinus to have been also founded in justice. Albinus showed him a preparation of it when he was in Holland. Dr. H. lays claim to the originality of having declared the periosteum, dura mater, tendons, and ligaments to be either wholly insen-

sible, or endowed with a very small degree of sensibility, and this doctrine he uniformly taught in his lectures—at first, in 1746, with some reserve, but afterwards with more confidence. Their sensibility in the natural and healthy state appears to be latent; but when roused by inflammation, to be more acute than that of more highly endowed parts. I have often been struck with this condition, which is probably referable to the firmness of the structures of these parts, and also of the bones and cartilages.

The ninth chapter gives an interesting account of the discovery of the hernia congenita, which was first noticed to Dr. Hunter by Mr. Sharp in 1748, and introduces an account of the state of the testis in the fœtus, and of the hernia congenita by his brother John Hunter.

In 1764 a *Supplement to the Commentaries* made its appearance, and gives a continuation of the dispute respecting the congenital hernia, particularly in reply to the observations of Mr. Pott, in the second edition of his work on that subject, and a *postscript* addressed to Dr. Monro, sen.

In 1762, Dr. Hunter was consulted respecting the pregnancy of the queen; and, in 1764, he was appointed Physician Extraordinary to her majesty. The extension of his anatomical class, and the labour of lecturing, added to his other numerous avocations, induced him to seek for assistants in the duties of teaching. He sent for his brother John, and he also selected from among his pupils an anatomist and physiologist of great ability, Mr. William Hewson, well known by his researches on the blood. This connexion continued to the year 1770, and Mr. Hewson was succeeded by Mr. Cruikshank, the author of the "Anatomy of the Absorbent Vessels." Dr. Hunter was elected a Fellow of the Royal Society in 1767, and in the same year he communicated to the Society, *Observations on the Bones, commonly supposed to be Elephants' Bones, which have been found near the river Ohio in America.* This paper shows Hunter's zeal for natural history, and the correctness of his observations. He readily perceived that the teeth among these animal-remains did not correspond with those of the elephant; and his brother, John Hunter, marked them as belonging to a carnivorous animal. Further observations have shown the Hunters to have been correct in their remarks upon this subject. The bones are those of the mastodon of Cuvier. Dr. H. also contributed papers to volumes 60 and 61 of the Philosophical Transactions, in the year 1770. The former is an *Account of some Bones found in the rock of Gibraltar;* the latter, *An Account of the Nyl-ghau, an Indian animal not hitherto described.*

In 1768 he was elected a Fellow of the Society of Antiquaries, and also appointed to be Professor of Anatomy to the Royal Academy, instituted in that year. There is a picture of him by Zoffany, in which he is represented delivering a lecture on the muscles at the Royal Academy, surrounded by a group of the academicians. Hunter's portrait is the only part of the picture that is finished. This appointment, made by the king, was very

flattering to him, and he executed its duties with great zeal and enthusiasm. He pointed out the application of anatomical knowledge to the objects of painting and sculpture, and had abundant opportunities of evincing his refinement of taste, and appreciation of whatever is beautiful in nature or art.

In 1774 he put forth a work, by which alone his name would descend to posterity, and the execution of which reflects the highest credit upon his character. *The Anatomy of the Human Gravid Uterus* is one of the most splendid medical works ever published. It is not, perhaps, too much to say that the engravings have never been surpassed. It was printed by Baskerville at the Birmingham Press. Many of the dissections were by John Hunter. The work is in large folio, was dedicated to the king, and is printed in Latin and English, in parallel columns. I possess the copy which formerly belonged to Dr. Denman, the father of the present enlightened Lord Chief Justice of England. This is enriched with his MS. notes, and from these I learn that the preface was either translated into Latin, or corrected, by Sir George Baker, Bart. The work was commenced as early as 1751, and ten plates were prepared. Opportunities of dissecting the human gravid uterus are happily of rare occurrence, and it is fortunate that such a chance should have fallen into such able hands. The whole power of his mind seems to have been bent upon this object, and a determination to exclude as far as possible any imperfection whatever. This will account for the delay in the production of the work. A period of thirty years was necessary, to obtain sufficient instances to develope all the changes occurring in the human uterus during the progress of gestation. From these drawings, engravings, models, and casts have been made, since used by every lecturer on midwifery, and preserve their value to this day in as high a degree as at the time they were executed. There are thirty-four plates, drawn principally by Rymsdyck, and engraved by Strange, Grignion, Ravenet, Worlidge, Scotin, and others. The first ten plates were all taken from one subject. The twenty-sixth plate is intended to represent the retroverted uterus. Dr. Denman has justly marked an objection to this plate,—the subject can only be understood by a side view. The membrana decidua reflexa, or spongy part of the chorion which is reflected over the fœtus, a discovery due to Dr. H., is represented in plate twenty-seven. The work consists of plates, and the explanations of them. The treatise upon the subject was intended to be a separate production; but Dr. H. did not live to publish it. It remained for Dr. Baillie to submit this to the profession, which he did in 1794, as *An Anatomical Description of the Human Gravid Uterus and its Contents*, and dedicated it to Dr. George Fordyce, Dr. David Pitcairn, and Dr. Charles Combe, the trustees appointed by Dr. H. to the care of his museum. Dr. B. has added little to the MS. left by Dr. H., diffidence and delicacy forbidding him to add more than what appeared to be absolutely wanting. The work must be looked upon as a necessary illustration of the large folio volume of plates.

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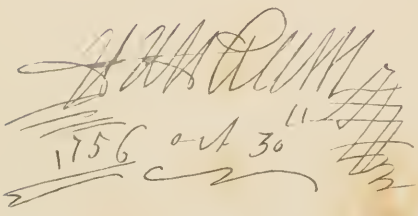
1756 æt 30

JOHN HUXHAM, M.D. F.R.S.

> "Physicians are, some of them, so pleasing and conformable to the humour of the patient, as they press not the true cure of the disease; and some other are so regular in proceeding according to art for the disease, as they respect not sufficiently the condition of the patient. Take one of a middle temper; or, if it may not be found in one man, combine two of either sort; and forget not to call as well the best acquainted with your body, as the best reported of for his faculty."
>
> Bacon.

The subject of this memoir is one of the few physicians who has chosen nature for his guide, and, by attentive observation, viewed the various phenomena of disease, and treated it upon philosophical principles. It is exceedingly to be lamented that the materials for a biography of Dr. Huxham, are so scanty: his son published a supplementary volume to a work of his father's after his death, but has not favoured the world with the relation of any incidents or particulars connected with the life of a most experienced and talented physician.

Dr. John Huxham, we learn from Polwhele,* was the son of a butcher living at Halberton in Devonshire. Of his early education nothing is known; but he is to be found in the list of students of the University of Leyden, so celebrated for its education of enlightened professors and practitioners of medicine. Here he graduated, and appears afterwards to have selected Plymouth as the seat of his practical labours. These must have been very extensive, for they obtained for him a very considerable fortune. The seat of his practice gave to him opportunities for making meteorological observations, and studying the influence of climate, seasons, &c., in the production of disease. This is a field in which there have been but few labourers, although its importance is universally acknowledged. The difficulties attending it, appear to have deterred most from pursuing this path of inquiry. To attentively observe the various atmospheric phænomena, the successive changes of weather and of seasons, requires the closest application, and nothing short of the most continued labour, can possibly be productive of satisfactory results. In attention to this subject, the ancients have unquestionably the advantage over the moderns. The father of medicine (Hippocrates) duly appreciated the importance of correctly

* History of Devonshire.

noting the effects of atmospheric vicissitudes upon the human frame, and has left us a noble specimen of his talent, in his treatise on epidemic disorders. In his tract also *De Aere, Aquis et Locis*, he advises all physicians to examine into the particulars and condition of the situation, air, and the water used by the people dwelling in those places they are called to practise in. He seems to have been most fully impressed with the importance of these inquiries, and, at the same time, sensible of the difficulties necessarily experienced in their investigation. Dr. Huxham published, in two volumes, his *Observationes de Aere et Morbis Epidemicis*, and to these a supplementary volume was published by his son in 1771. The former volumes, (the first of which was inscribed to Sir Hans Sloane,) were published in 1739 and 1752, and embrace the particulars of a register kept from 1728 to 1748; the latter from 1749 to 1752. In 1759, a bad translation of the first volume appeared without Huxham's knowledge or approbation; and, in the succeeding year, another was put forth with the sanction of the author. In 1768, his son, J. Corham Huxham, A.M. F.R.S., published a translation of the second volume, from 1738 to 1748 inclusive.

Dr. Huxham was a Fellow of the Royal College of Physicians of Edinburgh, and also a Fellow of the Royal Society of London. He contributed for many years to the Philosophical Transactions. The following is a list of his papers printed in that collection, from the year 1723 to 1762.

1723. 1. Partium Genitalium in Muliere Structura præternaturalis.
1724. 2. Observationes duæ rariores. (On a very large Omentum, and Saliva of an unusual colour.)
—— 3. A short account of the Anomalous Epidemic Small Pox, beginning at Plymouth, in August, 1724, and continuing to the month of June, 1725.
1726. 4. Account of an Aurora Borealis.
—— 5. Casus Rarissimus. (On a large Stone in the Urethra.)
1730. 6. Case of Spina Bifida.
1732. 7. Epistola de Morbo Colico singulari.
1740. 8. On an Extraordinary Hernia Inguinalis. Postscript of an Observation of the Passage of Mercury over the Sun. October 31st, 1738.
1741. 9. On an Extraordinary Venereal Case.
1744. 10. A Letter concerning Polypi, (Coagula,) taken out of the Hearts of several Sailors, just arrived at Plymouth from the West Indies.
—— 11. A Letter serving to accompany an account of the Case of one Hannah Hitchcock, one of whose Ureters was grown up; a Present of a beautiful Stalactites, now in the Museum of the Royal Society; and a Drawing of an Extraordinary Calculus, taken out of the Bladder of a Boy.
1748. 12. A Letter concerning a Child born with an Extraordinary Tumour near the Anus, containing some Rudiments of an Embryo in it.
1750. 13. On the Northern Lights.
1755. 14. Notices concerning a Body found in a Vault in the Church of Staverton.
—— 15. Medical and Chemical Observations upon Antimony.
—— 16. Of a man who swallowed Melted Lead.

1758. 17. On the Extraordinary Heat of the Weather in July, 1757, and its effects.
1762. 18. Two Remarkable Cases in Surgery: (a Division of the Trachea, and the Effects of Lightning.)

Dr. Huxham also printed in the third volume of the Medical Observations and Inquiries, some *Remarks on Emphysematous Cases from Internal Causes.* These are appended to the *History of a Case of General Emphysema from a Fractured Rib, related by Mr. Leake, Surgeon to the Garrison at Plymouth.*

Huxham's chief work is, "*An Essay on Fevers,*" which was published in 1739. Several editions of this work were demanded, and it appeared again in 1750, and in 1757, to which edition was appended a "*Dissertation on the Malignant Ulcerous Sore Throat,* a disease which at that time attracted great attention, and which dissertation had been separately printed in 1750. The work on fevers appeared again in 1764, 1767, 1769, and 1782. It has been translated into several languages, and there is an anecdote connected with this subject, and reported by Polwhele, which must not here be omitted. "The Queen of Portugal being ill of a fever, and being reduced to the last extremity, notwithstanding the efforts of the physicians of the country; his majesty, hearing of the eminence of a physician of the English factory at Lisbon, sent for him, and, giving him the particulars of the queen's disorder, inquired whether it was in his power to administer any assistance. The physician replied, that he was not without hope, but that he could do nothing unless her majesty was left to his sole care and direction. This being granted, the disorder soon took a turn, and in a short time the queen was restored to perfect health. The doctor being complimented by the king upon his abilities and success, said he had no claim but to the application; for that the merit was due to Dr. Huxham, an eminent physician of Plymouth, whose tract on the management of fevers he had implicitly followed. Upon which the king immediately procured the treatise, had it translated into the Portuguese language, printed it in handsome quarto, and sent it, richly bound, to Dr. Huxham, as an acknowledgment of the sense he entertained of his abilities, and of his debt of gratitude on the recovery of the queen."

In his work on Fevers, Huxham has assigned to the disease an inflammatory cause, in the greater number of cases, which approximates towards the opinions now pretty generally entertained upon this subject. There are, however, it must be admitted, few diseases upon which there exists among practitioners a greater variety of opinions as to many particulars, nor is a uniformity of opinion on such a subject likely to be readily entertained. It is not yet satisfactorily ascertained whether the disease primarily exists in the fluid or the solid parts of the body. The attention, however, now paid to the structure and functions of the animal frame have destroyed the speculative opinions of the ancients, and will place the

information possessed upon this subject on its proper foundation. The researches of Clutterbuck, Broussais, and others, are entitled to great commendation, and will be more particularly noticed in other memoirs. The object in introducing the subject here is to do justice to the discernment and acuteness of Huxham, whose researches must ever command our respect; and although the humoral pathology, the prevailing doctrine of his day, tinctures his writings, it will readily be perceived that he was no blind devotee to the opinions or theories of his age; but dared to look into doctrines, and observe for himself, as free from prejudice as most of us can possibly expect to be.

In 1752, Huxham published an Essay upon the Epidemic Colic of Devonshire, *(De Morbo Colico Danmoniensi,)* which was translated into German in 1784.

In 1756 he put forth some *Observations on Antimony*, and formerly a preparation of this substance bore his name, and was sold as Huxham's Antimonial Wine. His mode of preparing the tincture of bark is still pursued, and well known in the shops of our chemists and apothecaries. He corrected the bitter of the bark by the addition of aromatics. The formula is to be found in the Essay on Fevers, and it has been introduced into the London Pharmacopœia.

In 1766 a treatise *De Scorbuto* was published at Venice. This is the substance of an appendix attached to the second edition of the work on Fevers, entitled *A Method for Preserving the Health of Seamen in Long Cruises and Voyages.* This proposal first appeared in the General Evening Post in October, 1747, and also in the Gentleman's Magazine for the same month. It was adopted with great advantage.

Huxham died in 1768. His writings show that he was a man of learning, and well acquainted with the works of the ancients. He entertained great admiration of the writings of Hippocrates, and in the preface to his work on Fevers declares, that, although he will not take upon him to say that a person cannot be a good physician without consulting that great oracle of physic and reading the ancients, yet that he will make a much better physician for so doing; and, he adds, that few, if any, ever made any considerable figure in their profession who had not studied them. He seems to have considered the advice of Horace in regard to poetry equally applicable to physic:

> " Vos exemplaria Græca
> Nocturna versate manu, versate diurna."

His works have been collected together, and published at Leipsic in 1764, in 2 vols. 8vo., edited by Geo. Chr. Reychel, under the title of *Opera Physico-Medica.* His Portrait by Rennell, from which that accompanying this Memoir is taken, is placed among the "Worthies" of the Royal Society, and appears in the meeting-room of the Fellows. I beg here to offer my thanks to the council for the permission granted me to engrave it.

Edw. Irving

EDWARD JENNER, M.D.

L L. D. F. R. S.

&c. &c. &c.

"And he stood between the dead and the living; and the plague was stayed."—NUMBERS xvi. 48.

EDWARD JENNER was born on the 17th of May, 1749. He was a native of Berkeley in Gloucestershire. His father was the vicar of this place, and his mother was descended from an ancient family in Berkshire. In early life, Jenner was deprived of his father, and the direction of his education devolved upon an elder brother, the Rev. Stephen Jenner. He attained a respectable proficiency in the classics, and his taste for natural history manifested an early developement; for, at the age of nine, he had made a collection of the nests of the dormouse, and he employed the hours usually devoted by boys to play, in searching for fossils in the neighbourhood.

"No childish play to him was pleasing."

Intended for the medical profession, Jenner was apprenticed to Mr. Daniel Ludlow, of Sodbury near Bristol, to acquire a knowledge of surgery and pharmacy; and, after the period of his apprenticeship had expired, in 1770, he went to London to complete his professional studies, and was a student at St. George's Hospital, and a resident, for two years, in the family of the celebrated John Hunter. The similarity of their tastes and spirit of research will not render it a matter of surprise that he should become a most favourite pupil. That this was the case in an eminent degree, the correspondence which was maintained between these two great physiologists sufficiently prove. "There was in both a directness and plainness of conduct, an unquestionable desire of knowledge, and a congenial love of truth."*

* Baron's Life of Jenner, Vol. I. p. 5.

Jenner was remarkable for the neatness and precision with which he made preparations of anatomy and natural history. His dissection of tender and delicate organs, his success in minute injections, and the taste he displayed in their arrangement, is said to have been almost unrivalled. Mr. Hunter recommended him to Sir Joseph Banks, to prepare and arrange the various specimens brought home by the celebrated circumnavigator, Captain Cook, in his first voyage of discovery in 1771, and he was solicited to become the naturalist of the succeeding expedition in the year following; but Jenner's partiality to his native soil, and his desire of settling in the place of his birth, were too strong to admit of his being allured into such an appointment. He preferred the seclusion of a country village; and to this selection do we owe one of the greatest blessings ever bestowed upon mankind. It is not unreasonable to suppose, that the subject by which he should afterwards be known to the whole civilized world, dwelt upon his mind with considerable force even at this early period, for the prophylactic powers of the cow-pock were known, or rather rumoured of, in a few districts, and the subject had been mentioned by Jenner to Hunter and others, though he had not been successful in directing their attention sufficiently to the importance of it. Indeed, he pressed this subject so much upon his professional brethren, that, at a medical club at Redborough, to which he belonged, he was threatened to be expelled if he persisted in harassing them with a proposition which they then conceived had no foundation but in popular and idle rumour, and which had become so entirely distasteful to them. It remained, therefore, to Jenner to pursue the inquiry, and to place the whole matter upon a proper physiological basis, by which it might be rendered permanently beneficial. This inquiry was perfected amidst the labours and anxious toils attendant on the life of "a country surgeon," with few books to consult, and little leisure to devote to their perusal. Observation necessarily supplied the place of literary research—the book of nature was open to his view, and it was one he was well calculated to comprehend—it surpassed all others, and its contemplation amply repaid the student.

Of all classes of men with whom it has been the fortune of the writer of this sketch to associate, there are none, in his opinion, so generally and so truly amiable as the *naturalists*. The contemplation of nature seldom fails to produce an elevation of character; it also begets a sweetness of disposition flowing from a sense of what is beautiful in creation; and the evidences of beneficence, everywhere so abundant, soften the feelings, and impart to the individual a sincere benevolence of heart. This disposition was strikingly manifested in Jenner, to whose affection, kindness, meekness,

goodwill, and benevolence, so many have borne the most ample testimony. It was no uncommon thing for Jenner to be accompanied in his daily professional tour of many miles by friends, who have eagerly listened to the outpourings of his mind, called forth by the beauties which in the vale of Gloucester surrounded him. His observations on the structure and economy of the various objects of natural history were delivered with the most captivating simplicity and ingenuity. Full of information himself, he delighted to impart it, and was equally solicitous of obtaining a return from others—he was an enthusiast in his devotion to nature, and he anxiously desired that all should participate in the gratification which such a study never failed to afford. He united in an especial manner a talent for the most profound observation, to a disposition most lively and ardent, distinguished by mirth, playfulness, and wit. With these powers, it is not surprising that his society should have been much courted; and, fully engaged as he was by the duties of an extensive practice, he yet found time to cultivate an acquaintance with polite literature. Many little productions of his muse have appeared in print: they were addressed to some of his more favoured correspondents, or occasionally read at convivial meetings,* and display the turn of his mind, the benevolence of his disposition, and the liveliness of his imagination.† His best poetical productions find their subjects in natural history. "The Signs of Rain," unite the accuracy of the naturalist with the fancy of the poet.

Jenner made many experiments for John Hunter, to illustrate his papers published in the "Observations on some parts of the Animal Economy." Hunter's letters to Jenner make constant allusion to his labours.

"I shall be glad of your observations on the cuckoo, and upon the breeding of toads: be as particular as you possibly can. If you can pick me up any thing that is curious, and prepare it for me, do it, either in the flesh or fish way." Again; "I received yours, as also the cuckoo's stomach. I should like to have a few more of them, for I find they do not all show the same thing. If possible, I wish you would remove the cuckoo's egg into another bird's nest, and tame the young one, to see what note it has. There is employment for you, young man!‡ If you collect eggs, you should

* He was a member of a catch-club. He had a taste for music, and occasionally performed upon the violin and the flute. He had an abhorrence of cards.

† The following lines addressed to a lady upon the recovery of her daughter, and sent with a pair of ducks, afford a fair specimen of his facetious vein:

"I've despatch'd, my dear madam, this scrap of a letter,
To say that Miss ***** is very much better;
A regular doctor no longer she lacks,
And, therefore, I've sent her a couple of *quacks*."

‡ The natural history of the cuckoo was but ill understood, until Jenner turned his attention to it. His paper in the Philosophical Transactions for 1788, supplies a

also collect the nests; and I do not care how many you send. I wanted a crow's nest, as also a magpie's, in the branches of the tree where they are built; but I am afraid it is now too late." "See if you can catch the number of pulsations, and the frequency of breathing, in the bat, without torture. If the frost is hard, see what vegetables freeze; bore holes in large trees, and see whether the sap runs out, which will show it is not frozen."

These instances must suffice. Hunter wished Jenner to unite with him in establishing a school to teach natural history, human and comparative anatomy, the labour of which he found to be beyond the ability of any one man—even a HUNTER. The torpidity of animals exercised the minds of these physiologists, and they made numerous experiments to ascertain the nature of the phænomena attending this singularly curious condition. Mr. Hunter's papers give the results of these investigations. Dr. Jenner possessed not only the proper spirit of inquiry, which should characterise every physiologist and pathologist; but he endeavoured to excite it in others. Thus we find him instrumental in the establishment of societies of professional men in his neighbourhood, meeting together for the common purpose of advancing their knowledge of subjects connected with their professional pursuits, and of promoting social intercourse, and good-will among themselves. Two societies of this description, one of which was called the "Medico-Convivial," and the other, the "Convivio-Medical," having for their members Drs. Parry, Hicks, Ludlow, and others, were established. At one of these meetings, a paper by Jenner was read upon the obscure disease known by the name of *angina pectoris*. He appears to have been the first to suggest its chief pathological distinction in the ossification of the coronary arteries. His acumen in detecting the nature of John Hunter's disease, is creditable to his character as a pathologist, and he but too truly foretold the condition of parts, which in so sudden a manner deprived the world of, perhaps, the greatest physiologist that ever lived. Jenner also read a paper on a disease of the heart occurring in persons subject to *rheumatic* attacks, leading to the enlargement and disorganization of that vital organ. Subsequent inquiries have detected the connexion of these conditions; but Jenner's claim to the dis-

desideratum in natural history; and the manner in which he accounts for the singular perversion of maternal instinct in this bird, in neither building a nest, hatching its young, nor rearing them afterwards, is very ingenious and satisfactory. Soon after the publication of this paper, Jenner was elected a Fellow of the Royal Society. Another subject of ornithology, not less interesting, occupied his attention, the Migration of Birds. A paper on this subject was read at the Royal Society, Nov. 27, 1823, and printed in the Philosophical Transactions for 1824. Dr. Baron has given a very interesting extract in his biography of Jenner, vol. ii. p. 278.

covery cannot be maintained, since his paper having fallen into the hands of some of the members of the club, was lost, and has not been recovered. He wrote also a treatise on *Ophthalmia*, which has not been published.

Jenner directed his attention to improve the mode of preparing *tartarized antimony*, a medicine of great importance in the practice of physic. Jenner also made inquiries into the nature of *hydatids*, and the condition of the *lymphatic system*, in health and in disease. His views upon this subject were published in 1819 and 1822, by Dr. Baron, in two works, on the Origin of Tubercles, and an Inquiry into the Nature of Tuberculous Diseases.

Jenner's practice had increased to such an extent, that he was desirous of abridging his labours, and, in 1792, he obtained from the University of St. Andrew's a diploma, granting to him a degree of Doctor of Physic.

To trace the order of events, and to analyze all the circumstances connected with the history of vaccination, cannot fail to excite the deepest interest. To do any thing like justice to this subject, within a compass consistent with the design of this publication, is impossible; the sources whence such information may be obtained, can be pointed out, but they cannot be pursued. To Dr. Baron, Dr. Jenner's executors intrusted all his papers and correspondence, with a view to the composition of his biography by one well acquainted with the opinions, feelings, and character of Jenner, as a man, a physician, and a naturalist. Dr. B.'s veneration for the object of his biographical labours, manifests itself in every page of his work, which does not fail to give the reader a fair statement of the history of one of the greatest benefactors of the human race. The history of vaccination forms one of the most interesting physical topics that can engage the mind of man; and every particular relating to it, is full of interest. Dr. Baron has traced with great precision, and with equal truth, the progress of Jenner's mind in this inquiry, and in this narration has necessarily made us acquainted with his great love of natural history, and the vast acquirements he possessed by his researches into nature. Jenner had nearly passed half a century before he made known to the world his experiments and investigations relative to the vaccine disease. His first successful vaccination was made May 14th, 1796. His ardour from an early period has been noticed, and it took its rise from the following accidental circumstance. Whilst a pupil with Mr. Ludlow, a young country-woman applied for advice. The subject of small-pox was mentioned; upon which she observed, "I cannot take that disease, for I

have had the cow-pock."* This was sufficient to excite the attention of Jenner, and the incident never escaped his recollection. It is easier to conceive than to express the emotions which would naturally spring up from reflection on such a subject; his benevolent feelings were at once aroused to full activity—he pictured to himself all the horrors of that pestilential and most loathsome disease, disfiguring nature's greatest work, slaying thousands upon thousands, and he was yet sufficiently young to recollect the severity of discipline to which he had himself submitted, in the process preparatory to the practice of inoculation, which, to use his own words, in that day were no less than that of "bleeding till the blood was thin; purging till the body was wasted to a skeleton; and starving on vegetable diet to keep it so."

The patience manifested by Jenner in the prosecution of his inquiry into the cow-pock, the scrutiny to which he subjected every appearance that presented itself, and the fortitude with which he withstood every untoward circumstance, are entitled to all praise, and show forth his great capabilities for conducting a philosophical investigation. He divested the subject of all its difficulties and obscurities, and gave to "vague, inapplicable, and useless rumour the certainty and precision of scientific knowledge." The extent of his anticipations upon this truly momentous subject do not appear to have been fully stated until 1780, ten years subsequent to his mention of it to John Hunter. He then confidentially disclosed to his intimate friend Edward Gardner (who gave evidence upon the subject before the committee of the House of Commons) the opinions he entertained upon the natural history of the cow-pock; dated its origin from the diseased heel of the horse; alluded to the different diseases with which the hands of the milkers became affected from handling the infected cows; distinguished that which was calculated to afford security against the small-pox; and divulged the hope he entertained of being able finally to eradicate that disease from the face of the globe. Dr. Baron has recorded the remarkable words with which this important communication was made.

"I have entrusted a most important matter to you, which I firmly believe will prove of essential benefit to the human race. I know you, and should not wish what I have stated to be brought into conversation; for, should any thing untoward turn up in my experiments, I should be made, particularly by my medical brethren, the subject of ridicule—for I am the mark they all shoot at."

* From this anecdote, the title of *discoverer* of vaccination may, perhaps, be considered as inapplicable to Jenner; and in the course of this memoir, it is used with reference to the developement of the various phenomena of the disease, and the laws by which they are governed.

Jenner's reasons for concealment did not arise from any selfish or unworthy motive—the publicity he had always given to the subject, and the efforts he had made among his professional associates to pursue the inquiry, excludes the possibility of entertaining such a suspicion—no, it arose from a dread of disappointment and the fear of failure, should the matter be brought forward in a state other than that of a maturity sufficient to carry conviction immediately upon its promulgation. In the course of his researches, he was led to conclude that swine-pock, as well as cow-pock, was only a variety of small-pox. He inoculated his eldest son with the matter of swine-pock, and produced a disease similar to a very mild small-pox. After this, the inoculation of variolous matter would produce no effect. He ascertained that cow-pock (as it was commonly termed by the milkers) would frequently fail in effecting a security against the small-pox. This led him to inquire more particularly into the variety of spontaneous eruptions to which the teats of the cow were liable, and to discriminate the different kinds of sores produced by them on the hands of the milkers, and to establish the characters of those which possessed a specific power over the constitution, and those which had no such efficacy. He found that instances occurred in which the true cow-pock failed in preventing small-pox; but, nothing daunted by this apparently fatal discovery, he set about ascertaining the causes of this deviation. He found the specific virtues of the virus to have been lost or deteriorated, so that it was rendered capable only of producing a local affection, and had no influence whatever upon the constitution; and, by the greatest ingenuity, and patience of observation of the analogies drawn from the virus of small-pox, aided by his knowledge of the laws of the animal economy, he discovered that it was only in a certain state of the vesicle that the virus was capable of affording its protecting agency, and that, when taken under other conditions, or at other periods, it could produce a local disease, yet that it was not able to manifest any constitutional effect, or afford security to the invasions of the small-pox.

On the 14th of May, 1796, Jenner inserted lymph taken from the hand of Sarah Nelmes, who was infected with cow-pock, into the arms of James Phipps, a healthy boy about eight years of age. This is the first instance of regular inoculation of the vaccine disease by Jenner. The boy went through the disorder, and on the 1st of July following he had the matter of small-pox introduced into his arms, but no effect followed. Jenner had not before witnessed the cow-pock but as presented on the hands of the milkers, nor had it been transmitted from one human being to another. He was struck with its great resemblance to the small-pox pustule. The

success of this case must necessarily have operated powerfully upon Jenner, and have urged him to continue the research with increased energy. His anticipations thus realized! his intentions accomplished! what must have been the feelings of such a man as Jenner? They were suited to the magnitude of the occasion; and mark the character of the philosopher, distinguished as it ever was by great simplicity, benevolence, and humility. "While (says he) the vaccine discovery was progressive, the joy I felt at the prospect before me of being the instrument destined to take away from the world one of its greatest calamities, blended with the fond hope of enjoying independence and domestic peace and happiness, was often so excessive, that, in pursuing my favourite subject among the meadows, I have sometimes found myself in a kind of reverie. It is pleasant to me to recollect that these reflections always ended in devout acknowledgments to that Being from whom this and all other mercies flow." Lord Bacon has said, that "it is heaven upon earth, to have a man's mind move in charity, rest in providence, and turn upon the poles of truth." Jenner is a striking illustration of the truth of this remark.

The modesty of Jenner was evidenced in his original intention of submitting his observations on the cow-pock, in a paper addressed to the Royal Society. Dr. Baron tells us, that "when the subject was laid before the president, (the late Sir J. Banks,) Jenner was given to understand, that he should be cautious and prudent; that he had already gained some credit by his communications to the Royal Society, and ought not to risk his reputation by presenting to the learned body any thing which appeared so much at variance with established knowledge, and withal so incredible. It came forth most unostentatiously, about the end of June, 1798, dedicated to his friend Dr. Parry of Bath. Dr. Jenner visited London in the month of April in this year, and remained until the 14th of July. His object in this visit was, to demonstrate the disease to his professional friends; but such was the distrust, or apathy, felt on the occasion, that Jenner absolutely returned to the country, without having been able to prevail on any one individual to submit to the inoculation of the virus! The fact is inconceivable. Thank heaven, the spirit of medical inquiry, at the present day, is of a different character. The virus Jenner brought to London was consigned to the care of the late Mr. Cline, of St. Thomas's Hospital. This celebrated surgeon inserted some of it by two punctures, into the hip of a patient labouring under a disease of that part of the body. This must be regarded as a clandestine mode of proceeding, for it was adopted under the idea of exciting a counter-irritation to the diseased part. The intention was to convert the vesicles into an issue, after the progress of the

cow-pock had been observed. This idea was, however, abandoned. Small-pox matter was afterwards inserted into this child in three places, it produced a slight inflammation on the third day, and then subsided. The child was effectually screened against the disease. Mr. Cline now became very sanguine as to the result, and he inoculated three children with lymph taken from the vesicles of the child, but no effect ensued. The time of taking the lymph has not been stated. The subject now began to excite the attention of the profession, and all were eager to put the matter to the test of experiment. Mr. Cline urged Dr. Jenner to settle in London. He promised him £10,000 *per ann.* as the result of his practice. What was his reply?

"Shall I, who even in the morning of my days sought the lowly and sequestered paths of life, the valley, and not the mountain; shall I, now my evening is fast approaching, hold myself up as an object for fortune and for fame? Admitting it as a certainty that I obtain both, what stock should I add to my little fund of happiness? My fortune, with what flows in from my profession, is sufficient to gratify my wishes; indeed, so limited is my ambition, and that of my nearest connexions, that were I precluded from future practice, I should be enabled to obtain all I want. And as for fame, what is it? a gilded butt, for ever pierced with the arrows of malignancy. The name of John Hunter stamps this observation with the signature of truth."

That a discovery of such importance to mankind, once divulged, should bring forth many claimants, and that its author should be subjected to virulent attacks, is easy to be conceived. Jenner, however, never thought it necessary to reply to unfounded and harsh aspersions, satisfied in the strength of his own case, and feeling the justice and truth of his own claims and position. The biographer of Jenner has told us that his nature was "mild, unobtrusive, unambitious; and many who have done justice to his discovery, have still to learn how beautifully the singleness of his heart, and his genuine modesty, graced and adorned that splendid reputation, which the wonderful consequences of his labours had acquired for him. In every private affair, in every public transaction, one principle guided him. The purity of his motives, and the disinterestedness of his actions, have, by no means, yet been duly acknowledged. Had those who opposed him and vaccination known how little of selfishness, of vanity, or of pride, entered into his character, they would, I am persuaded, deeply lament the wounds which they inflicted; and in the place of bitterness and reproach, would have found cause for unmixed esteem and approbation."

The practice being now established, it is unnecessary even to refer to the names of the opponents of vaccination. Many mistakes, and some of a serious nature, occurred to interrupt the progress of the discovery; these

had been for the most part foreseen by Jenner, and were satisfactorily explained. His opinions for the information of the non-professional reader may, perhaps, be briefly stated thus: That he considered small-pox and cow-pock as modifications of the same distemper; that by the employment of the latter, we give the disease in its mildest form, instead of propagating it in a virulent and contagious form; that the origin of both is to be found in "the grease" of the horse's heel; and, that by the insertion of lymph from the vesicle produced by this disorder, (having undergone certain modifications in its transit through the cow,*) it excites in the human constitution a similar influence, and renders the individual, so inoculated, proof against the attacks of the small-pox. The identity of the origin of the two diseases, appears now to be well established, and some late experiments, made at Bremen, have not excited the attention, in this country, to which they are entitled.† In a letter to a friend, Jenner says, "I will just drop a hint: the vaccine disease, in my opinion, is not a preventive of the small-pox, but the small-pox itself; that is to say, the horrible form under which the disease appears in its contagious state is (as I conceive) a malignant variety." Again: "What I have said on this vaccine subject, is true. If properly conducted, it secures the constitution as much as variolous inoculation possibly can. It is the small-pox in a purer form than that which has been current among us for twelve centuries past." And, in a letter to Mr. Pruen, "I have ever considered the variolous and the vaccine radically and essentially the same. As the inoculation of the former has been known to fail in instances so numerous, it would be very extraordinary if the latter should always be exempt from failure. It would tend to invalidate my early doctrine on this point."

It is not necessary here to dwell upon the fatality of the small-pox when taken in the natural way, or to show that the mortality has been increased by the practice of inoculation, which creates an atmosphere for

* This has been since ascertained to be unnecessary.

† The experiments here referred to, to prove the identity of the small and cow-pock, were made by Dr. Sonderland, and are inserted in the *Journal des Praktischen Heilkunde,* for January 1831. He has shown that by covering the cow with a blanket removed from the bed of a patient suffering under small-pox, the disease may be produced in the animal, and the udder becomes covered with vesicles. The lymph contained in these resembles that of the cow-pock, and, if introduced into the human species, will produce the disease. This method of obtaining a fresh supply of lymph, a matter of considerable importance, certainly merits attention; and it is surprising that it has not been attempted in this country. Dr. S. seems to think that cow-pock has arisen, in all instances, from the animal being brought into contact with persons labouring under small-pox, and does not derive its origin from the grease of the horse, as generally conceived.

the constant propagation of the disease; these have been satisfactorily demonstrated in evidence before the House of Commons, and any one may readily obtain this information. It is, however, interesting to record the names of those who, abandoning all prejudice, and solicitous to promote a general good, submitted to the practice at its earliest period. Mr. Henry Hicks was the first to submit his own children to the vaccination. Lady Frances Morton (Lady Ducie) was the first personage of rank who had her child, and her only child, vaccinated. The Countess of Berkeley was very instrumental in forwarding it; and the children of his late majesty, William IV., were vaccinated by Mr. Knight. That prejudices should still exist, and in this country too, against the practice, is most unaccountable. In the States, where legislative enactments have been issued to enforce it, the small-pox has been exterminated; yet a disease which is more destructive of life than even the plague itself, is still suffered to appear on the face of the earth!

Dr. Jenner's discovery entailed upon him a most extensive correspondence,* and obliged him frequently to travel to London. His professional engagements were not only interrupted, but almost annihilated, and his private fortune encroached upon by such circumstances. His friends urged an application to parliament; and who so deserving of attention, as the discoverer of a practice so salutary as vaccination, by which millions of lives have been saved? He had promulgated his views; he had withheld nothing from his profession or the public; in short, he had sacrificed all private benefits for the advantage of mankind. A petition to parliament was presented on the 17th of March, 1802, and Mr. Addington (now Lord Sidmouth,) informed the house, that he had taken the king's pleasure on the contents of the petition, and that his majesty recommended it strongly to the consideration of parliament. A committee was appointed, of which Admiral Berkeley was the chairman. A great mass of evidence was brought forward, and many professional and other persons examined. The Duke of Clarence gave his testimony, and manifested strongly his conviction of the prophylactic powers of the vaccine disease. Much opposition was offered to the claims of Jenner. He felt this deeply, and in a letter to his friend Mr. Hicks, dated April 28th, 1802, he writes: "I sometimes wish this business had never been brought forward. It makes me feel indignant to reflect that one, who has, through a most painful and laborious investigation, brought to light a subject that will add to the happiness of every human being in the world, should appear among his coun-

* He facetiously termed himself "Vaccine Clerk to the World."

trymen as a supplicant for the means of obtaining a few comforts for himself and family." The committee reported, and the house voted £10,000 to Dr. Jenner. An amendment, proposing £20,000, was lost by a majority of three! Sir Gilbert Blane, Dr. Lettsom, and others, feeling the utter inadequacy of this reward to the merits of the case, proposed to raise a fund by public subscription; but it was not carried into effect.

The Royal Jennerian Society was established in 1803, and had the king for the patron, the queen for the patroness, and various members of the royal family and nobility for its supporters. The design of the institution was to vaccinate the poor gratuitously, and supply virus to all parts of the world. It effected great good, and reduced the number of deaths by small-pox, in a very remarkable degree. But dissensions sprung up chiefly through the conduct of the resident inoculator, recommending practices contrary to the printed regulations of the Society, and it was virtually dissolved in 1806.

Lord Henry Petty (now Marquis of Lansdowne) was the Chancellor of the Exchequer in 1806, and on the 2d of July he brought the subject of vaccination again before the house of parliament. Upon this, the College of Physicians was directed to make inquiry into its state and condition, and a report was made on the 19th of April, 1807. The report was highly satisfactory as to the advantages of the practice. On the 29th of July, the Right Hon. Spencer Perceval, being then Chancellor of the Exchequer, called the attention of the house to it, and moved an additional grant of £10,000, when an amendment to double the sum was proposed by Mr. Edward Morris, M.P. for Newport, in Cornwall, and carried by a majority of thirteen.

In 1808, the National Vaccine Establishment was formed, where the practice of vaccination and the supply of lymph have ever since been continued.*

From the sketch thus given of this illustrious character, the activity of his mind, the profundity of his views, and the benevolence of his heart, will be rendered evident. Of the latter, Dr. Lettsom, in an oration delivered before the Medical Society of London, March 8, 1804, has given many examples which do honour to human nature. Void of ostentation, and of great simplicity of manners, he never courted popularity, or sought distinction. The approbation of the highest and the most intellectual ranks afforded him gratification, but did not beget pride. One great object occu-

* The history of this establishment, and the disregard shown to Dr. Jenner's wishes upon the subject, will be found fully detailed by Dr. Baron, (Vol. ii. chap. iv.)

pied his mind, and every thing yielded to its accomplishment: that effected, his natural disposition immediately manifested itself—he returned to the country, and courted retirement, there to exercise what Cowper has so beautifully described as

> "Delightful industry enjoyed at home,
> And nature in her cultivated trim
> Dressed to his taste."

His marriage in 1788 with Miss Catherine Kingscote, sister of the present Colonel Kingscote, a lady described as elegant in her manners, accomplished in her mind, and possessed of an understanding of great vigour, afforded to Jenner lasting delight and happiness, and gave to him two sons and a daughter. Occasional extracts from his journal, given by Dr. Baron, set forth Jenner's domestic character in the most amiable light, and show that he was a just and a good man. Such a man ought to have been ennobled—he has conferred immortality upon himself; he has literally "*stayed the plague.*"

Jenner had two narrow escapes from death; one in 1786, from exposure to intense cold, of the effects of which he has given an interesting account;* and in 1794, from an attack of typhus fever, which he has also detailed.†

Foreign academies and societies enrolled him in the lists of their associates, and the medical societies of his own country were not less anxious to adorn their transactions with his name. In 1808 he was elected a corresponding member of the National Institute, and in 1811 he was chosen an associate, in the room of Dr. Maskelyne, deceased. The empress dowager of Russia sent to him a diamond ring, accompanied by a letter in testimony of her admiration of vaccination. She had the first child vaccinated in Russia named "Vaccinoff," and fixed a pension upon it for life. The Medical Society of London presented him with a gold medal; the Physical Society of Guy's instituted a new order of members, under the title of Honorary Associates, and named Jenner for the first; the nobility and gentry of Gloucestershire presented him with an elegant gold cup; and various other marks of consideration were bestowed upon him as testimonies to the benefits he had conferred upon mankind. He was chosen mayor of his native town; received the freedom of the corporation of Dublin; the freedom of the city of Edinburgh; and elected an honorary fellow of the Royal College of Physicians of that city. In 1813, the University of

* Baron's Life, Vol. I. p. 72. † Ibid. p. 106.

Oxford granted him a degree of Doctor in Physic, by a decree of the convocation. The diploma was presented by Sir C. Pegge and Dr. Kidd, the professors of anatomy and chemistry. On this occasion, (and a similar honour had not been conferred by the university on any man for nearly seventy years before,) Dr. Jenner observed, "It is remarkable, that I should have been the only one of a long line of ancestors and relations who was not educated at Oxford. They were determined to turn me into the meadows, instead of allowing me to flourish in the groves of Academus. It is better, perhaps, as it is, especially as I have arrived at your highest honours, without complying with your ordinary rules of discipline." The conduct of the London College of Physicians, it is painful to remark, was not characterised by such liberality. The majority of the Fellows refused to admit him without the usual examination. Many of the Fellows were anxious upon the subject, but their wishes did not prevail.

The Commander-in-chief of the Army, (H. R. H. the Duke of York,) upon the recommendation of the Army Medical Board and the Lords of the Admiralty, recommended the adoption of vaccination in our army and navy, and the naval physicians and surgeons presented a gold medal to Jenner for his discovery. The practice extended itself throughout France, Germany, Italy, Spain, Russia, and the United States. In the East, it overcame even the scruples of the Hindoo and the Chinese. The writer of this memoir, by the kindness of Sir George Staunton, is in possession of a treatise on vaccination, drawn up by Mr. Pearson, and translated by Sir George into the Chinese language. It was of exceeding use in encouraging the natives to the adoption of the salutary practice. The King of Prussia submitted his own children to vaccination. He was the first crowned head to do so. Jenner had interviews with the grand Duchess of Oldenburgh, in this country, in 1814; also with the Emperor of Russia and the King of Prussia.

The following circumstance must not be omitted; it is a homage at the shrine of science and philosophy rarely to be met with.—Upon the breaking out of the war with France, among others who were detained in that country was Dr. Wickham, one of the travelling Fellows of the University of Oxford. Dr. Jenner was solicited to use his interference to procure his release. He addressed a petition to Napoleon for his liberation;—the animosity of Bonaparte to this country was then at its height. The petition was presented to him when in his carriage, changing horses. "Away, away," exclaimed the emperor. "But do you see," said Josephine, who accompanied him; "do you see from whom this comes—*Jenner?*" The tone of his voice was immediately softened. "What that man asks, must not be

refused:" and the prayer of the petition was granted. Dr. Jenner succeeded also in obtaining the liberation of other individuals,—Mr. Williams, Mr. (now Lieut.-Col.) Gold, Mr. Garland, a son of Sir John Sinclair, &c. His influence with foreign nations exceeded that possessed by him in his native country—a passport from Jenner was certain of attention and respect. The spirit of enterprise in the cause of vaccination was greater abroad than at home, and the correspondence printed in the second volume of Dr. Baron's excellent biography affords abundant testimony of the pain which this supineness produced. It will scarcely be credited, that the practice of variolous inoculation was continued at the Small-Pox Hospital to so late a period as June 30th, 1822! What serious mischief must have ensued from such conduct.

On September 13th, 1815, he lost Mrs. Jenner; he retired to Berkeley, and may be said, after that period, to have resided in retirement. A fit of apoplexy attacked him August 6th, 1820, but left no paralysis; he recovered, but his existence was terminated on the 26th of January, 1823, in the 74th year of his age, by another fit. He was buried on the 3d of February, in the chancel of the parish church of Berkeley, and a large concourse of people were present on the occasion.

Many portraits, busts, medallions, &c. have been executed of Jenner, for different public bodies and publications; the one accompanying this sketch, is taken by the kind permission of Dr. Baron, from a picture by Sir Thomas Lawrence, and is unquestionably the best likeness that has appeared. In Gloucester cathedral, a fine statue of him has been placed, executed by Sievier It was effected by a subscription of the people of Gloucester.

Dr. Jenner's labours seem to have been most warmly appreciated in the East, and the two Presidencies transmitted substantial proofs of their regard. Public subscriptions were entered into, to remunerate him: £4000 was transmitted from Bengal; £2000 from Bombay; and £1383. 1s. 10d. from Madras. Poems were written in praise of vaccination; "Il Trionfo della Vaccinia, Poema di Gioachino Ponta, Genovese," published at Parma, and printed at the splendid press of Bodoni. "La Découverte de la Vaccine, Poëme en Trois Chants, par un Médecin," "An Ode to Hygeia on the Vaccine Inoculation," by the Rev. T. D. Fosbrooke. Mr. Coleridge also contemplated a poem on the subject, but it was never accomplished; it was only, to use the poet's own language, one of his "lazy indefinite reveries, early dreamt about doing."

Dr. Jenner's last visit to London was in April 1814. Dr. Lettsom did the writer of this, the honour to introduce him to this celebrated man, and

the impressions on his mind corresponded completely with those felt and so well described by Dr. Baron, (Life, vol. ii. p. 137.) Of the personal character of Dr. J. his biographer has left a pleasing record. His individuality is well depicted; his simplicity, his artlessness, the total absence of ostentation or display. "He was perfectly unreserved, and free from all guile. He carried his heart and his mind so openly, so undisguisedly, that all might read them. You could not converse with him, you could not enter his house, nor his study, without seeing what sort of man dwelt there." Dr. Jenner contemplated a review of his opinions, and a comparison of them with the facts which had been obtained from the experience of his professional brethren throughout the world. But he did not live to accomplish this design. His last writing, and which being on the back of a letter, the post-mark of which gives the date of January 14th, 1823, may fairly be considered as his parting statement, in allusion to the great object of his life, runs thus: "*My opinion of vaccination is precisely as it was when I first promulgated the discovery. It is not in the least strengthened by any event that has happened, for it could gain no strength; it is not in the least weakened, for if the failures you speak of had not happened, the truth of my assertions respecting those coincidences which occasioned them, would not have been made out.*"

It remains only to give a correct list of his publications:

1. On the Natural History of the Cuckoo. *Philosophical Transactions*, Lond. 1788.

2. A Process for Preparing pure Emetic Tartar, by Re-Crystallization. *Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge.* Vol. i. p. 30. Lond. 1793.

3. Inquiry into the Cause and Effects of the Variolæ Vaccinæ, Lond. 1798, 4to.

4. Farther Observations on the Variolæ Vaccinæ. Lond. 1799, 4to.

5. A Continuation of Facts and Observations, relative to the Variolæ Vaccinæ. Lond. 1800. 4to.

6. A Complete Statement of Facts and Observations relative to the Cow-pock. Lond. 1800, 4to.

7. On the Origin of Vaccine Inoculation. Lond. 1801, 4to.

8. On the Varieties and Modifications of the Vaccine Pustule, occasioned by an herpetic state of the skin. Lond. 1804.

9. Observations on the Distemper in Dogs. *Transactions of the Medico-Chirurgical Society*, vol. i. p. 263. Lond. 1809.

10. Two Cases of Small-pox Infection, communicated to the Fœtus in Utero, under peculiar circumstances, with additional remarks. *Ibid.* p. 269.

11. A Letter to C. H. Parry, M.D. F.R.S, &c. on the Influence of Artificial Eruptions, in certain Diseases incidental to the Human Body. Lond. 1822, 4to.

JAMES JOHNSON, M.D.

PHYSICIAN EXTRAORDINARY TO THE LATE KING.

"Nec medici, nec imperatores, nec oratores, quamvis artis præcepta perceperint, quidquam magnæ laudis dignum sine usu, et exercitatione consequi possunt." CICERO.

A JUSTLY celebrated physiologist and physician* has well observed, that "that man is a scientific physician, who is well acquainted with, and has appropriated to, his own use, the results of all the inquiries which have been made at different times by eminent observers upon the symptoms, course, and causes of diseases, and with the precepts of treatment which they have recommended and employed." And that, "to become a skilful practitioner, he must understand how to bring this knowledge into operation, and be ready to apply all its rules and deductions to each particular case." This is a talent only to be acquired by the most patient observation, the most diligent study, and the most extensive practice; and if any one member of the medical profession is to be regarded as having most zealously laboured to attain this summit of medical knowledge, it is the subject of the present memoir, who has now for many years given to us the fullest evidence of his erudition and practical knowledge by the judicious and able manner in which he has conducted the "Medico-Chirurgical Review, and Journal of Practical Medicine," a work which must be admitted to hold the very first rank and importance in medical periodical literature.

The opinion thus directly given of the merits and qualifications of Dr. James Johnson is not simply a result derived from the perusal of the pages of his review; but has been formed from an acquaintance with his practice, and an association with him in professional matters at various times, and during several years. It is not to be regarded as the language of panegyric—it is truly the payment of a debt of gratitude to one who has so ably led the minds of the medical public to a consideration of what is due to themselves as practitioners, and to those individuals whose happiness and lives have been committed to their care. The importance of an able and just periodical literature of medical science must be admitted by all—it is too generally entrusted to inexperienced hands, and crude theory has but too often usurped the place of practical observation. The press of the present day teems with the productions of authors on medical subjects, and

* Tiedemann—Physiologie des Menschen

literary discrimination is more necessary than ever, to point out not only to the student, but also to the practitioner, the works of real value and necessary to be perused. This is a task of no little labour or difficulty—great information is necessary on the part of the guide, to accomplish this object in a satisfactory manner. Pope observed, that "the greater part of critics form a general character from the observation of particular errors, taken in their own oblique or imperfect views; which is as unjust, as to make a judgment of the beauty of a man's body from the shadow it happens to cast in such or such a position." As a critic, Dr. Johnson is not open to this censure—he stands indubitably one of the least prejudiced, and the manly way in which he has at all times stated his objections to the opinions expressed by others shows that he does not belong to the class so forcibly described by the poet just quoted.

Dr. James Johnson was born in the year 1778, in the parish of Ballinderry, county of Derry, Ireland, on the banks of Lough Neagh. His parents were Protestants; his father, a respectable yeoman, cultivating a small farm of twenty or thirty acres. James Johnson was the youngest son of a large family, none of whom, I believe, except himself, are now living. At the age of six years he was put to a grammar-school, kept by a Catholic, the brother of the parish priest. Here he made rapid progress, and, as I learn, was generally at the head of his class. When not so, he was very unhappy, and would sit up till midnight in study. At the early age of fifteen he passed an examination in Dublin, in the classics, and was apprenticed to a surgeon-apothecary (Mr. Young) in Port-glenone, in the county of Antrim. He remained there only two years, when he was transferred to Mr. Bankhead of Belfast, where he continued two years more, and then came to London, without either money or friends. He became assistant to an apothecary in the metropolis, and, by hard study and irregular attendance on lectures in anatomy and surgery, he passed a creditable examination at Surgeon's Hall in 1798, and was appointed surgeon's mate in the navy, in the month of May of the same year. In the Mercury frigate, he sailed to Newfoundland and Nova Scotia, always studying very hard, and, when the ship was in harbour, taking every opportunity of visiting the naval hospitals, abroad and at home. Captain Rogers, of the Mercury, who had a great antipathy to the Irish, made an exception in the case of his youthful surgeon's mate, and winked at his absence from the ship for some months in the winter of 1799, when he studied night and day in London; and in January, 1800, he passed a triumphant examination, for the second time, at Surgeon's Hall. Through the interest of his patron, Captain Rogers, he was appointed full surgeon in the navy, and appointed to the Cynthia, sloop-of-war, on the 27th of February, 1800, as appears by Steel's Navy List. He was then in the twenty-second year of his age. In this ship he accompanied the famous expedition to Egypt, was at the siege of Belleisle, (not the American Belleisle,) and all the various descents which the troops

made on the coasts of France, Spain, &c., till they reached Egypt. In the Mediterranean he was taken ill, and was sent back to Gibraltar Hospital, where he did duty for some time, under Mr. Vaughan, surgeon of the Naval Hospital there. From thence he returned to London in the winter of 1800, and studied in Great Windmill Sreet, under Mr. Wilson and Mr. Thomas. In the winter of that year, he distinguished himself as a dissector, and very generally prepared the subjects for Mr. Wilson's and Mr. Thomas's lectures and demonstrations, as the latter gentleman still states with pleasure. It was in this winter that the present Master of the Rolls, (then Mr. Bickersteth,) and Mr. Johnson formed a society of six individuals, who gave demonstrations daily, in their turn, to a large class of medical students, in the anatomical theatre of Windmill Street.

In May, 1801, Mr. Johnson's slender finances were entirely exhausted, having expended his last farthing on lectures and studies. In the spring of that year, being anxious to attend a course of midwifery lectures, but not having the means of paying the fee, he stated his circumstances to the late Dr. John Clarke, then a distinguished lecturer in Burlington Street, who instantly gave him a free ticket of admission, and invited him to his table. Mr. Johnson never forgot this act of generosity, and has frequently related the anecdote.

In June, 1801, Mr. Johnson applied to the Navy Medical Board for a ship, and tendered a certificate from Mr. Wilson, couched in the following remarkable terse language to Dr. Harness:—"The *bearer* of this, Mr. James Johnson, has actually *lived* in the dissecting-room of Great Windmill Street during the last six months. Examine him, and see whether he has studied in vain." Dr. Harness instantly appointed him to the "Driver" sloop-of-war, in which ship he served in the North Sea, visiting the Orkney and Shetland Islands, and going with a convoy to the vicinity of Greenland and Hudson's Bay.

At the peace of 1802, he was again out of employ, and passed a few months, and spent the remainder of his scanty finances in study in the metropolis. It then required great interest to get employment on the peace-establishment, and Mr. Johnson had none. He applied to the Sick and Hurt Board, and the late Sir Gilbert Blane having entered into conversation with Mr. Johnson, gave him a help, and he was immediately appointed to a fine frigate, (the "Caroline,") fitting for the East Indies. In May, 1803, he sailed for the East; and during the next three years, in India and China, he laid the foundation for his first medical work, *The Influence of Tropical Climates on European Constitutions.*

In 1806 he returned from the East Indies, and having been successful in prize-money, he now entered as a student at Guy's and St. Thomas's, and became acquainted with Sir Astley Cooper, Dr. Curry, and other distinguished characters of the period. In the autumn of the same year he married Miss Charlotte Wolfenden, of Lambeg, in the county of Antrim;

and after a year or two of attendance on prisoners-of-war at Plymouth and Portsmouth, he was appointed to the "Valiant," of seventy-four guns, in which ship he remained nearly five years, and saw a great deal of active service. This was one of the two line-of-battle ships that forced their way into Basque Roads, between strong batteries, and burnt the French fleet there. Afterwards, in 1809, he was present at the Walcheren expedition, and narrowly watched the havoc of disease on those pestiferous islands.

In 1812, he published the first edition of his work on *Tropical Climates*, chiefly at his own risk and expense, and immediately on its appearance, he was appointed flag-surgeon, with the late Sir William Young, then in command of the North Sea fleet. Here he did the duty of physician to the fleet, and acquired the friendship and patronage of Admiral Young, which continued till the death of the latter in 1820.

At the peace of 1814, the late King, then Duke of Clarence, hoisted his flag in the "Impregnable," when Sir William Young retired, and Mr. Johnson was so strongly recommended to the Duke, that he was retained, and served with his Royal Highness while conveying the Emperor of Russia, King of Prussia, &c., &c., to this country. The Duke had an attack of his hay-asthma at Boulogne, while waiting for the crowned heads, and Mr. Johnson attended his Royal Highness, and the attack was very soon overcome. The Duke was so much pleased with Mr. Johnson, that he exerted all his influence to obtain for him the rank of physician to the fleet, but was baffled by Lord Melville, then at the head of the Admiralty. The Duke appointed him surgeon-in-ordinary, and always afterwards treated him with great kindness.

At the conclusion of the war in 1814, Mr. Johnson settled at Portsmouth as a general practitioner, and in less than two years got into extensive practice. But his health was not good; and perhaps his ambition was strong, for in July, 1818, he removed to London. This was a bold step. With the exception of Sir William Young, he had no friends whatever in the metropolis: he had a family of five children; and, as he has told me, was not worth five hundred pounds in the world. Since that period—now twenty years or more—his life, in a professional point of view, has become well known. He had taken out a Scotch degree in 1813; and he became a licentiate of the College of Physicians in 1820.

Dr. Johnson's first publication was not a medical one. It was entitled *The Oriental Voyager*, published in 1808, and presented an amusing account of his voyages and observations in the East. His next was the work *On Tropical Climates*, published in 1812, and which has gone through five editions. The most experienced practitioners in the diseases of hot climates have uniformly expressed the high opinion they entertain of this work. The application of physiological knowledge to the treatment of disease is beautifully illustrated by the author. The fifth edition contains the substance of his treatise on Indigestion.

While serving with Sir William Young in the North Sea, he published some papers in the *New Medical and Physical Journal;* and when he settled at Portsmouth, he appeared as one of the editors of that work. The Journal, however, had but little success; and in July, 1818, when Dr. J. came to the metropolis, he took the bold and dangerous step of starting a *Quarterly Review*, entirely at his own risk and expense, and conducted by himself alone! To his astonishment, the first edition of the first number was exhausted in the first week, and the work rapidly rose to a circulation of 1250, 1500, 2000, and ultimately 2500 copies. This journal is the only medical one that has ever been reprinted in a foreign country. It has been republished regularly in New York for many years past, and circulates widely in the United States. His private practice increased with the Journal, and the mental and corporeal labour required for his public and professional avocations was enormous, and such as would have destroyed the health of any one who had not an excellent original constitution, and great facility of composition, verifying what the best prose writer perhaps of the present day has observed, that "he who thinks least about it when engaged in composition will be most likely to attain it, for no man ever attained it by labouring for it."* I know, on the best authority, that for years and years Dr. Johnson never even read over the copy of his reviews before it went to press; and so few were the corrections afterwards made, that the cost of these seldom exceeded a few shillings on each quarterly number of his journal. Dr. J. has often declared, that the only secret of his being able to go through such extensive literary labour was his punctuality. Whatever might be his professional avocations of the day, he seldom or never went to bed till the number of pages necessary for the Journal were completed. When private practice was not pressing, he took care to have the Journal far in advance, so that it was always ready long before quarter-day. Excepting when on his tours of health, he never relaxed an hour, or hardly a minute, during the day, from work of some kind or other. Indeed, his excursions at home and abroad were not even exceptions to this law; for incessant activity of mind and body has been the characteristic of his life.

Such uninterrupted labour, however, could not be carried on for years with entire impunity. In 1823, after suffering severely from a surgical operation, he recruited his health by a three months' tour in Switzerland, &c.; but in 1826 his dyspeptic complaints assumed an aggravated form, and threatened his life. At this period he was obliged to relinquish, for a time, his professional avocations, and in that retirement wrote his *Essay on Indigestion*, drawn from personal as well as general observations on that afflicting and Proteian malady, the scourge of those who overwork the brain as well as the body. This work, which has gone through nine editions, and has been translated and reprinted in different countries, brought his private

* The Doctor, Vol. II. p. 201.

practice to the highest point compatible with his health, which, of late years, has been remarkably good. The first four editions of this work were demanded in the short space of nine months. Few books upon a subject which has been so generally treated of, and upon diseases with which so many are afflicted, have been so popular, yet so entirely devoid of quackery. Beaumont and Fletcher have truly said,

> "What an excellent thing did God bestow on man
> When he did give him a good stomach."

Dr. Johnson felt the want of this blessing, and applied his mind to the relief of his sufferings—this has contributed to the happiness of others, for the treatment he proposes is at once energetic, and founded upon a due observation of the phenomena of disease, and the operations of the animal economy. The last edition of the work has a description of the Bath of Pfeffers in the country of the Grisons.

In 1831 he published his first edition of *Change of Air, or the Pursuit of Health*, which has gone through four editions, and is considered by himself as the best of his literary labours, though apparently written *currente calamo*. This volume was the result of an autumnal excursion through France, Switzerland, and Italy, in the year 1829, and contains many judicious observations on the moral, physical, and medicinal influence of travelling, exercise, change of scens, freeign skies, and voluntary expatriation. The work opens with reflections on education and avocation, and most truly depicts the "wear and tear" of human life. This applies equally to the body and the mind, the connexion between which and their sympathies, in all the modifications of pleasure and of pain, and the relation which obtains between the condition of the intellectual faculties and those functions which constitute the animal economy, are well known to be subjects of great intricacy and difficulty. They belong properly, perhaps, more to the natural philosopher than to the moralist, but the researches of either have hitherto not been productive of any positive information upon the subject. The alliance, however, must be admitted—the connexion is apparent, though the cause be obscure. All the great writers of antiquity have remarked upon the effects of excess on the operations of the intellect. Horace devotes a satire to the advantages of temperance, and he remarks, with that energy which so particularly distinguishes all his writings, that the body overcharged with the excess of yesterday, weighs down the mind together with itself, and fixes to the earth that particle of the divine spirit.

> "———————— Vides, ut pallidus omnis
> Cœnâ desurgat dubiâ; quin corpus onustum
> Hesternis vitiis, animum quoque prægravat unâ,
> Atque affigit humo divinæ particulam auræ."—Hor. Sat. ii. l. 2.

No one has, in my opinion, more tersely or more truly expressed the value of health than Sir William Temple:—

"Health (he says) is the soul that animates all enjoyments of life, which fade and are tasteless, if not dead, without it: a man starves at the best and the greatest tables, makes faces at the noblest and most delicate wines, is old and impotent in seraglios of the most sparkling beauties, poor and wretched in the midst of the greatest treasures and fortunes: with common diseases strength grows decrepit, youth loses all vigour, and beauty all charms; music grows harsh, and conversation disagreeable; palaces are prisons, or of equal confinement; riches are useless, honour and attendance are cumbersome, and crowns themselves are a burden; but, if diseases are painful and violent, they equal all conditions of life, make no difference between a prince and a beggar; and a fit of the stone or the colic puts a king to the rack, and makes him as miserable as he can do the meanest, the worst, and most criminal of his subjects."

Dr. Johnson not only points out the cause of the "Wear and Tear of Modern Life," but he distinctly states the means of counteracting these effects; and all who delight in the union of literary taste with scientific inquiry will peruse Dr. J.'s work with great satisfaction.

In 1833, he published an amusing tour to the Hebrides, entitled *The Recess, or Autumnal Relaxation in the Highlands and Lowlands.*

In 1836, he published *The Economy of Health, or Stream of Human Life*, which has gone through three editions, and is a very popular production. Butler says,

"There is a kind of physiognomy in the titles of books, no less than in the faces of men, by which a skilful observer will as well know what to expect from the one as the other."

Here is matter for the metaphysician and the moralist, as well as the physician. The stream of life from the cradle to the grave!

"———————— so gliding on
It glimmers like a meteor, and is gone!" ROGERS.

And 'tis what Shakspeare said of love—

"The uncertain glory of an April day,
Which now shows all the beauty of the sun,
And by and by a cloud takes all away."

For, as Felltham has written,

"The life of man is the incessant walk of time, wherein every moment is a step towards death. Even our growing to perfection is a progress to decay. Every thought we have is a sand running out of the glass of life. Every letter which I now write is something cut off from the measure of my existence here."

Dr. Johnson divides it into ten septenniads, and treats of all its various conditions—the evolution and progress of functions—the changes peculiar to the different periods—the diseases of most common occurrence, under varieties and vicissitudes of climate and seasons—and the gradual decay of the mortal fabric. All these important matters are the subjects of Dr. J.'s philosophical observation and speculation, and the manner in which they are treated illustrates the advantages arising from a comprehensive knowledge of the whole science.

During all this time his literary labours in the *Medico-Chirurgical Review* have been indefatigable, though assisted by his son, and by various writers now employed in that work. For the first ten or twelve years, almost every article in that journal was written by himself, for which I have his own testimony, affording a sufficient proof of the assiduity of his studies, and the remarkable facility of his compositions. He states himself to have been almost entirely *self-taught*, both literary and professional; and from the expiration of his short apprenticeship, he supported himself without ever receiving a shilling from his relations.

Through a long and chequered life, he seems to have offered an exception to the dictum of the poet:

> "Haud facile emergunt, quorum virtutibus obstat
> Res Angusta Domi"

for he overcame all obstacles apparently without difficulty, and rose to comparative affluence and reputation, by easy but regular exertion of his intellect. Considering the difficulty and danger of the office of reviewer, I believe that he has made exceedingly few personal enemies—and most of these few have become his friends in the sequel.

In private practice he is one of the most popular physicians of this metropolis. His manners are mild and kind to his patients, and he has the art of inspiring great confidence in those whom he attends—an art, which, like that of poetry,

> "Nascitur non fit."

In his domestic affairs he has been fortunate and happy. His eldest son, Mr. H. J. Johnson, is united with his father as editor of the review, and is very much liked as a teacher of anatomy in the Kinnerton Street School, and bids fair to arrive at lucrative and honourable distinction in his profession. His second son, Mr. W. Johnson, took honours at Cambridge, obtained a fellowship, and is called to the bar. His third son is a solicitor: and his youngest son is studying under his eldest brother for the profession, at St. George's Hospital. His only daughter is married to a gentleman in the legal profession. Dr. Johnson may, therefore, now be considered as practising for the love of his profession, rather than for the support of a family, who are almost all provided for. He has always been a sedulous attendant on the various medical societies, and an active promoter of medical discussions in these institutions, where, indeed, he seems to be a general favourite.—Though remarkably cheerful in society, I have reason to believe that the subject of this memoir is pensive, and rather melancholic in private. This is probably the case with a majority of those whose literary productions and convivial conversations would lead us to think them the gayest of the gay. In religion, general politics, and medical politics, Dr. J. is known to be liberal, though free from scepticism, or ultra-radicalism. In the relations of private and domestic life, nothing is known but what is most honourable to his character.

H. Wyatt

Wm. Lawrence.

WILLIAM LAWRENCE, F.R.S.

SURGEON EXTRAORDINARY TO THE QUEEN.

"Much may be gained by studious inquiry; but much more will ever remain than man can discover."—FELLTHAM.

WILLIAM LAWRENCE was born at Cirencester in Gloucestershire, in July, 1783. His father was a surgeon in this town, and practised there for a long period. He died in 1837, at the advanced age of eighty-four, having retired from the profession many years before his death. The subject of this memoir received his education at a classical school near Gloucester, where he studied for seven years and a half, after which, in February, 1799, he went to reside in the house of Mr. Abernethy, to whom he was apprenticed. The advantages of such a position were fully estimated by Mr. Lawrence, and he has recorded his testimony to the character and talents of his distinguished teacher. In his introductory lecture delivered at the Royal College of Surgeons, he addresses the members in the following manner:

"You and the public know, and have long known, his acute mind, his peculiar talent for observation, his zeal for the advancement of surgery, and his successful exertions in improving the scientific knowledge and treatment of disease. His singular happiness in developing and teaching to others the original and philosophic views which he naturally takes of all the subjects that come under his examination; and the success with which he communicates that enthusiasm in the cause of science and humanity, which is so warmly felt by himself; the admirable skill with which he enlivens the dry details of elementary instruction; are most gratefully acknowledged by his pupils. All these various excellencies have been repeatedly felt in this theatre. Having had the good fortune to be initiated in the profession by Mr. Abernethy, and to have lived for many years under his roof, I can assure you, with the greatest sincerity, that, however highly the public may estimate the surgeon and the philosopher, I have reason to speak still more highly of the man and the friend; of the invariable kindness which directed my early studies and pursuits, of the disinterested friendship which has assisted every step of my progress in life, and the benevolent and honourable feelings, the independent spirit and the liberal conduct, which, while they dignify our profession, win our love, and command our respect for genius and knowledge, converting these precious gifts into instruments of the most extensive public good."

The zeal manifested by Mr. Lawrence in anatomical pursuits induced Mr. Abernethy to appoint him demonstrator of anatomy at St. Bartholomew's

Hospital when he had not completed more than three years of the term of his apprenticeship; and this situation he maintained for twelve years, to the great satisfaction of the pupils. He was admitted a member of the Royal College of Surgeons in September, 1805, and was appointed Assistant Surgeon to St. Bartholomew's Hospital in March, 1813, and in May, 1824, one of the principal Surgeons. In 1813 he was elected a Fellow of the Royal Society; in 1814, Surgeon to the Eye Infirmary; and in 1815, Surgeon to the Royal Hospitals of Bridewell and Bethlem. In the same year he was chosen one of the Professors of Anatomy and Surgery to the College, and he delivered the lectures for four years. He also delivered a course of lectures on surgery at the Medical School in Aldersgate-Street, in the winter of 1826-7; but retired from that school to succeed Mr. Abernethy at St. Bartholomew's Hospital as Lecturer on Surgery in the session of 1828-9. The Eye Infirmary he resigned thirteen or fourteen years since. The other appointments he still retains, and is a most deservedly popular lecturer at the hospital.

Mr. Lawrence's earliest work consists of a translation from the Latin of *A Description of the Arteries of the Human Body, reduced into the form of Tables, by* Adolphus Murray, M.D., *Professor of Anatomy and Surgery at Upsal.* This work appeared in 1801, undertaken at the suggestion of Professor Macartney, and was published as having been executed under his inspection; but Mr. L.'s name was not affixed to it. The importance of tables to assist the student in his anatomical researches is now fully admitted. Mr. Macartney had collected materials for a series of tables containing an account of the demonstrative parts of anatomy, but they have never been published. It will easily be conceived, that Dr. Murray's work is accurate and able, and that the translation by Mr. L. has been faithfully made. In a preface to the work by Mr. Macartney, he says, he "has not had occasion to make a single correction of consequence."

In 1806, the Royal College of Surgeons announced *The Treatment of Hernia* as the subject for a prize essay. For this Mr. L. successfully competed, and the essay was published in the ensuing year. The best evidence of the value of this work is afforded by the fact, that successive editions have been demanded, and that in the course of this year a *fifth* appeared. Notwithstanding the labour and accurate descriptions of Pott, Richter, Monro, and Cooper, in this department of surgery, there was yet room for a manual on the subject which should present to the practitioner at one view all the varieties observable of the disease, and point out also the several modes that have been adopted for their relief. This, Mr. L. has most ably effected, and his treatise will always be considered as of great value. The history of hernia is given as far as is necessary, the symptoms and progress of the disease clearly described, and in the later editions, particularly the last, important additions are given as to the varieties and treat-

ment, derived from an extensive practice in the wards of St. Bartholomew's Hospital.

The importance of Comparative Aanatomy in elucidating the structure and functions of the human body, is too well known to need enforcement in the present day; and it is not a little remarkable, that, until the labours of Blumenbach appeared, nothing like a direct system of the subject should have been brought forth. The reception this work met with in Germany, the well-known character of its most enlightened and amiable author, whose name is truly dear to every lover of science, induced Mr. L. to undertake a translation, and to subjoin an abundance of notes, derived from the labours and researches of the naturalists of this and all other civilized countries, and to prefix an Introductory View of the Classification of Animals, for the information and assistance of the student. The translation is admitted on all hands to have been made faithfully and elegantly, and its publication has tended in an especial manner to promote the cultivation of comparative anatomy in this country. As the work is elementary, it does not admit of analysis. A *second* edition, with notes, was published in 1827, by Mr. W. Coulson. The *first* appeared in 1807.

In 1808 Mr. Lawrence communicated to the Edinburgh Medical and Surgical Journal some *Observations on a peculiar affection of the Testis, attended with the growth of Fungus from that organ.* The affection, although undescribed by any previous writer, is not of very rare occurrence, and has been successfully treated, without resorting to the extirpation of the organ. It is very commonly the effect of a blow received on the part, which sets up an inflammatory action in the glandular substance, which goes on to produce destruction of the coverings, and, ultimately, ulceration of the scrotum, when a fungus shoots forth, and the pain previously experienced subsides. This fungus Mr. Lawrence has found to consist of the tubuli seminiferi, and he has detected the continuity of the excrescences with the pulpy substance of the testis itself. Destruction of the fungus (by the knife in preference to the ligature or caustic) enables the integuments to approximate, and the wound heals by a cicatrix, which is firmly connected with the organ in which the disease first sprung up. From this statement, it will be seen how necessary it is to mark the difference between this condition and that which is properly regarded as the fungoid disease of the testis, which is of a malignant character, and following a course of symptoms essentially distinct from those described by Mr. Lawrence.

In 1809, Mr. Lawrence contributed to the same work *Observations on Lithotomy, with the Account of a Case in which the Operation was performed with the Knife.* Considering the success which attended the operations of Mr. Cheselden, it is astonishing that the knife should ever have been abandoned for the gorget, to cut through the membranous parts of the urethra, the prostate, and the neck of the bladder. Mr. L.'s object is to enforce the use of the knife, and to return to the true lateral operation

of Mr. Cheselden. His description of the operation is concise, yet perfect, and the few instruments rendered necessary, namely, a staff, a knife, and the forceps, marks its simplicity, "what is more than these (he justly says) cometh of evil."

In 1809, the late Mr. J. J. Watt published *Anatomico-Chirurgical Views of the Nose, Mouth, Larynx, and Fauces*; and he obtained the aid of Mr. Lawrence to give an additional anatomical description of these parts, the importance of which may be estimated from the variety of morbid affections to which they are subject, and the intimate connexion they hold with many of the functions on which life may be said to be in a great measure dependent. The anatomical detail is not unnecessarily minute, but sufficiently full to give to the student a clear idea of the nature of those parts, and the purposes for which they were ordained. Mr. Watt also published a similar work on the anatomy of the pelvis, to which Mr. Lawrence contributed, as in the former case, the descriptions, demonstrations, and superintendence of the drawings.

An Introduction to Comparative Anatomy and Physiology; being the Introductory Lectures delivered at the Royal College of Surgeons, on the 21st and 25th of March, 1816.

Lectures on Physiology, Zoology, and the Natural History of Man. Delivered at the Royal College of Surgeons, 1819.

The publication of these works gave rise to the charge of materialism against Mr. Lawrence, and he was vigorously assailed from various quarters. The Christian Advocate in the University of Cambridge, the late Rev. Thomas Rennell, a most able and excellent man, esteemed it a part of his duty to examine into the works of Mr. Lawrence and others, upon the subject of life and organization, and to espouse the opinions of John Hunter and Mr. Abernethy. It appears that the lectures of the latter gentleman, delivered at the Royal College of Surgeons, on "An Inquiry into the Probability and Rationality of Mr. Hunter's Theory of Life," gave rise to the discussion. Mr. Lawrence, in his introductory lecture at the College, combated Mr. Hunter's opinions, and, of course, those by which they had been publicly advanced and supported. Mr. Abernethy replied in his "Physiological Lectures" in 1817, and Mr. Lawrence reverted to the subject in his Course in 1818.

There is unquestionably no subject so difficult as that of Life, in the whole range of physiological inquiry—its essence exceeds the power of human investigation—its effects and its properties are sufficiently obvious to our senses; but beyond this knowledge we can proceed but little, or rather not at all. Mr. Hunter's opinions on the subject, it must be confessed, carry us a very short distance in the inquiry beyond that of assembling together the phenomena of life. He considers it as *some* principle of activity added by the Deity to structure peculiarly organized; but what this principle may be, he does not pretend to determine, and herein

Mr. Hunter showed his sagacity. The principle of life he, however, conceived to exist throughout the body, and to be connected with that matter which principally composes the brain. His words are,

"I consider that something similar to the materials of the brain is diffused through the body, and even contained in the blood, between which and the brain, a communication is kept up by the nerves."

He evidently regarded life as something distinct from organized structure; yet always connected with it. This connexion is apparent in all the actions of life, and the influence exerted by these on the intellectual operations, is abundantly manifest. Mr. Abernethy is satisfied with Mr. Hunter's statement of the matter. He says,

"Thus my mind rests at peace in thinking on the subject of life, as it has been taught by Mr. Hunter; and I am visionary enough to imagine, that if these opinions should become so established, as to be generally admitted by philosophers, that if they once saw reason to believe that life was something of an invisible and active nature superadded to organization; they would then see equal reason to believe that mind might be superadded to life, as life is to structure. They would then indeed still further perceive how mind and matter might reciprocally operate on each other, by means of an intervening substance. Thus even would physiological researches enforce the belief which I may say is natural to man—that in addition to his bodily frame, he possesses a sensitive, intelligent, and independent mind: an opinion which tends in an eminent degree to produce virtuous, honourable, and useful actions."—pp. 94, 95.

Mr. Lawrence's opinions are unfolded in the "Introductory Lectures," (particularly the second,) and in the first and fourth of his "Lectures," already alluded to. He ridicules the doctrine of Mr. Hunter, and is, perhaps, blameable for indulging in some sarcastic reflections upon those who supported such opinions. This is, however, in a certain degree excusable, as being inseparable from the enthusiasm of a devoted lover of the science which he was appointed to teach. Angered, evidently, by the attacks of Mr. Abernethy, and the charges attempted to be fixed upon him, being of a no less serious nature than that of "perverting the honourable office intrusted to him by the College of Surgeons, to the very unworthy design of propagating opinions detrimental to society, and of endeavouring to enforce them for the purpose of loosening those restraints on which the welfare of mankind depends," he gave unbridled scope, not only to the full expression of his opinions, but also to the exercise of his fancy, and the display of his oratorical powers. We may, however, fairly question the purity of his taste, and regret that he should have indulged in observations reflecting too lightly, and, perhaps, irreverently, upon subjects regarded as sacred, and that he should have tinctured his discourses also by allusions to political things and circumstances: I say, that as a matter of taste, we may differ with Mr. Lawrence in this respect, and, although we may be disposed to admit of a considerable license in the

discursive delivery of a lecture, we may yet not approve the judgment which permitted him to submit those expressions to the press. The opinions of Mr. L. on the subject of life are those of many preceding physiologists and philosophers. He regards the functions as the offspring of the structure—the life as the result of the organization;* hence, that the consideration of these, which embraces the sciences of anatomy and physiology, cannot be separated from each other.

"Life (says he) is the assemblage of all the functions, and the general result of their exercise. Thus organization, vital properties, functions, and life, are expressions related to each other; in which organization is the instrument, vital properties the acting power, function the mode of action, and life the result."—Pp. 120, 121.

"We find that the motion proper to living bodies, or, in one word, Life, has its origin in that of their parents. From these parents they have received the vital impulse; and hence it is evident, that in the present state of things, life proceeds only from life; and there exists no other but that, which has been transmitted from one living body to another, by an uninterrupted succession."—Pp. 441, 142.

Yet, Mr. Lawrence has no hesitation in affirming,

"That no connexion has been established, in any one case, between the organic texture and its vital power; that there is nothing, either in the nature of the tissue, or in the combination of the elements, of any animal structure, that could enable us to determine beforehand what kind of living phenomena it will exhibit; and consequently that this, like all other branches of human knowledge, consists simply in an observation of the succession of events."—Pp. 143, 144.

Mr. Lawrence's remarks on the opinions of Mr. Hunter, occasioned Mr. Abernethy, in the ensuing year, to defend himself, and at the same time he did not fail to attribute to those who entertained a different view of the subject the possession of "either a deficient or perverse intellect." Mr. L.'s reply is to be found in his course of lectures delivered in 1818, the publication of which proved a source of considerable excitement. He has been roundly accused of infidelity, and of not entertaining a belief of the immortality of the soul; and, upon the assumption of entertaining these opinions, he has been most virulently attacked.

This is a controversy into which I have no disposition to enter. I have no wish to trespass upon what may be regarded as theological ground, or to indulge in the consideration of any abstruse metaphysical speculations.

* "In accuracy of language, organization is not a structure, nor is a structure organization. Organization is a general expression for the process or processes by which an organized structure is formed, and therefore can never properly denote the possession of organs or instruments for accomplishing certain purposes, but only a series of operations by which organs or instruments are formed, with a view to accomplish certain purposes. In other words, organization is the means employed in causing the structure, and not an effect produced by the structure." See Dr. Barclay's "Inquiry into the Opinions, Ancient and Modern, concerning Life and Organization," p. 340. This author thus distinguishes organization from organic structure, employing the term organism to denote the latter condition.

To trammel the mind with these, is to retard the progress of physiological science. I am content to view the vital phenomena as they present themselves to our senses through the whole range of animated nature, and to leave those ulterior reflections to the theologian and metaphysician, deeply impressed with the truth of what was uttered by (I believe) Simplicius, "that it cannot be that our thoughts should reach the heights of first principles." No one can question the brain being the material instrument of the mind, and that upon the developement and perfection of this organ depends the perfection or excellence of the mental powers.

Mind is a term I would employ to designate the powers of the nervous system, consisting of the organs of sense producing sensation in general—thought or intellect, the result of perception arising from sensation, the general function of the cerebrum—and volition or will, the general function of the cerebellum. Mind, I conceive to embrace all these functions; and I earnestly entreat that I may not be understood as including the Soul, which ought not, and, as I think, cannot be confounded with that of mind. The mind we see feeble and weak in infancy, whilst the brain is yet but imperfectly developed;—as the structure of this organ proceeds towards perfection by advancing years, the mind acquires with its growth strength and maturity; and as age creeps on, and the powers of the system decline and decay, so also does the mind and its powers manifest a declension of faculty. These are changes which do not apply to the soul—that is Immortal, and cannot therefore be dependent upon the organism of the frame.

There is no subject in physiological science which presents so much complexity, and which must be attended with so many difficulties, as an investigation into the functions of the nervous system in the production of thought, of sensation, and of motion. The wisest, the greatest, and the best of our race have hazarded conjectures and ventured upon speculations, which have been attended with but little satisfaction, and have at last been compelled to admit the inscrutable nature of the subject. The influence of the will over the body, the knowledge of the cause of life and thought, and the mode in which various bodies act, so as to produce sensations of colour, form, size, odour, taste, &c., all seem to be involved in impenetrable obscurity. It was well observed by my late friend, Dr. Cooke, that,

"Physiologists have often erred by paying more attention to the investigation of the nature of the subjects of their inquiries, than to that of the laws by which they are governed. Of the *ultimate nature or essence*, either of mind or matter, or of that compound which we call the nervous system, we know nothing; but of the laws by which it is governed, or rather the circumstances by which it is influenced, we know enough to enable us, in some degree at least, to understand the nature and causes, and to explain the phenomena of many of its morbid affections."

The essence of the thinking principle appears by the ancient philosophers, to have been very generally sought after in some modification of matter of the most subtile description. Democritus affirms the soul to be a sort of fire or heat; and Aristotle, in his book *De Anima*,*, says, that it has been thought to be fire, because fire is the most subtile, most moveable, and most moving of all the elements. The thinking principle has been compared to air, to vapour, to light:—the latter conjecture belongs to the Pythagorean school, in which it was imagined to consist of lucid particles floating in the air. Thales and Anaxagoras believed it to be the principle of motion. Aristotle does not clearly state his own opinion as to its nature. The soul is not body, he says, yet it is something belonging to body—it is that by which we live, and perceive, and understand. Plato contends for its immortality—for its entire distinctness from the body. He says,

"It is placed in the highest part of the body, and leads to heavenly contemplation; it was created before body, and will live after it; it is invisible, indestructible, and consequently immortal."

It is not possible here to pursue the subject further—it would necessarily occupy a volume instead of a few pages, and altogether, it must be admitted, that in all the writings upon this subject, both ancient and modern, there exists much confusion. In these things, therefore, it is, perhaps, best to say with Owen Felltham, that "in things of which I may be certain, I will labour to be instructed: but when I come where reason loses herself, I will be content with retiring admiration."

The lectures on the Natural History of Man, are arranged in chapters, and treat of every division of the subject. The patience, assiduity, and research of Mr. Lawrence, are exhibited in every page, and the work furnishes to the inquirer into the history of our species, and, indeed, to that of the whole empire of living nature, a most interesting and extended manual. The doctrines I have alluded to, however, occasioned a suppression of the original publication, by which many spurious editions have been sent forth to the public.

In 1830, Mr. Lawrence published *A Treatise on the Venereal Diseases of the Eye*. This work gives the result of his experience upon the nature, symptoms, and treatment of the venereal diseases affecting the organ of vision. The cases are given circumstantially, and are drawn up entirely from his own practice. They may, therefore, be considered as an accurate and impartial representation of facts, upon a subject of the highest importance. Diseases of the eye have, until lately, been too much engrossed by professed oculists, who have not failed to benefit themselves, but have contributed little or nothing to the advancement of the profession. There are, unfortunately, but few exceptions to this statement. The establish-

* Lib. i. cap. 2.

ment of Ophthalmic Institutions in the metropolis, and in some of the provincial towns, has done much to throw this branch of practice into the hands of those versed in the general principles, and engaged in the practice of general surgery. The advantages gained by this arrangement, are illustrated by the works of Mr. Lawrence, Mr. Travers, Mr. Wardrop, Mr. Tyrrell, Mr. Guthrie, and some others. Mr. Lawrence divides his subject, in the work now alluded to, into the gonorrhœal and the syphilitic, and of these he gives a particular history. The cases of gonorrhœal ophthalmia deserve particular attention—the instances in which it has presented itself to Mr. Lawrence's notice have been remarkably severe, and the adoption of the methods employed by him at an early period, may be the means of saving the organ from entire destruction. This is to be taken in its widest sense, and as applicable to the majority of cases, though, I must confess that, in my own limited practice on the subject, I have found astringent applications to afford greater relief than Mr. Lawrence seems disposed to admit. The chief reliance, however, is to be placed upon active depletion in the earliest stage of the complaint. The subject of syphilitic iritis, is treated of in a masterly manner.

In 1833, Mr. Lawrence put forth *A Treatise on the Diseases of the Eye.* It is to be regarded as an extended detail of a Course of Lectures on the Anatomy, Physiology, and Diseases of the Eye, delivered at the London Ophthalmic Infirmary. The work is elementary, and no analysis can be here given of it. It embraces not only the author's opinions, but those of all writers of eminence on the subjects of which it treats.

In 1834, Mr. Lawrence delivered the Hunterian Oration at the Royal College of Surgeons. He has portrayed with a masterly hand, and an eloquent spirit, the genius of John Hunter, who, as a physiologist and a surgeon, he considers to have had no equal in any age or country. He regards him as

> " one of those powerful minds, appearing only at long intervals, of which this island, small as it is, has produced so great a number;—that his name must be inscribed on that bright constellation of genius, which already bears those of Harvey and Sydenham, of Bacon, Locke, and Newton, of Shakspeare, Milton, Scott, and Byron."

These constitute the published *entire* works of Mr. Lawrence; but he has contributed largely to various publications. To the Cyclopedia of Dr. Rees he furnished all the articles on anatomy and physiology, and some of those on comparative anatomy. His communications to the Edinburgh Journal have already been noticed, and it remains to specify no less than thirteen papers, published in the Transactions of the Medico-Chirurgical Society, of which he was the President in 1831-2.

1. *Case of a Woman who voided a large number of Worms by the Urethra.* (Vol. ii. p. 385.) There are few subjects involved in greater obscurity than that of the generation of worms in different parts of the

human body. Their existence in the intestinal canal has generally been attributed to the introduction of their germs by the mouth; many facts have, however, been stated by naturalists, which go to prove the uncertainty of this opinion, for they have been found even in the embryo of different animals. That worms should be found in the urinary organs is extraordinary; but the case of Mr. L. and another, shown to me by the present President of the College of Surgeons, and others which are upon record, demonstrate the fact, and place it as a matter of certainty. It must be understood, that these cases are quite unconnected with those of intestinal worms perforating the bowels, and thus gaining admittance into the bladder. The case related by Mr. L. occurred in the practice of Mr. Barnett, and is most extraordinary, not less than from 800 to 1000 worms, varying in size from an inch and a half to eight inches in length, and of the thickness of a piece of bobbin, were discharged, twenty-two being the greatest number brought away at any one time. The worms were of a particular character, and are figured to illustrate Mr. L.'s paper.

2. *Account of a Child born without a Brain, which lived four days; with a Sketch of the principal deviations from the ordinary formation of the Body; Remarks on their production; and a View of some physiological inferences to which they lead.* (Vol. V. p. 165.) Acephalous, or headless fœtuses, are of such frequent occurrence, that they have often been described, and Geoffroy St. Hilaire has given a very minute account of them in his *Philosophie Anatomique.* Mr. L. has accurately described his case, and extended his view to other monstrous deviations from the normal condition. The utility of inquiries of this kind have been questioned, and Mr. L. replies to them in the following satisfactory manner:

"Our conceptions of nature will be more correct in proportion as they are drawn from a more extensive survey of her works; and, that we cannot fail to learn something of her mode of proceeding by attending even to the imperfect sketches, which she seems to have abandoned as incapable or unworthy of being completed. The causes of these failures, and the conditions necessary to the production of perfect beings, cannot be understood without carefully noticing in what the imperfections consist, and the circumstances under which they are produced. This subject, too, elucidates several questions in the hypothesis concerning generation. By showing us what happens when an important organ is wanting or malformed, it contributes to fix our opinions respecting its uses. It also exemplifies the general fact of the regularity of nature's works; since we see her, even in these abortive attempts, acting according to a rule, and deviating from her accustomed mode of proceeding, not capriciously, but in a certain series and order."

Of the imperfect organizations of the most striking kind, and to which the term monster has been usually applied, Mr. L. makes four divisions:

"1. Unnatural formations. 2. Unusual position of certain organs. 3. Of deficiency. 4. Of redundance of certain parts. The kinds of monstrosity are not kept distinct in each case: they may all be united in one specimen, and the want of one part is often attended with the unnatural position of another," &c.

In the *first* class are the hare-lip, deficient urinary and generative organs, spina bifida, imperforate rectum, &c. In the *second*, diaphragmatic and umbilical herniæ. In the *third*, the acephalous cases, those in which the heart is found to be deficient, and other parts of the body, fingers, toes, &c., not essential to life. In the *fourth*, supernumerary fingers and toes, the Indian child with a double head, the skulls of which are preserved in the Hunterian Museum, united bodies, (Siamese twins, for example,) fœtuses within the bodies of others of the same species. Examples of all these deviations are to be seen in all the public museums, and in most private collections—their existence is well established; but it is not an easy matter satisfactorily to account for their peculiar formation and character. Mr. L. views this subject under two considerations, *those which are, and those which are not capable of supporting life after birth.* He well observes, that,

"the vital powers in monsters do not seem adequate to maintain the comparatively simple existence of the fœtal state: if, however, they get over this danger, the hour of birth is generally with them the hour of death."

That those deviations from the ordinary productions of nature are dependent upon any influence the mother can exert upon her offspring, is at this day hardly deserving of notice; but a refutation of this opinion may be found in Mr. L's paper, in which it is fully shown,

"that there is not a single fact even approaching to a proof, that the mother's imagination ever had any effect on the form of a child; that none of the numerous monsters resemble, in any essential character, the objects to which they are compared, and most of them, as the brainless and those without hearts, the double fœtuses, those with redundant parts, as the two-headed, &c., correspond to no archetype in nature.

Every one must have observed the frequency of monstrous productions among brute animals, and that these chiefly occur in our domesticated animals. The influence of domestication on structure is particularly dwelt upon by Mr. L. in his lectures before alluded to, and he seems disposed to consider the monstrous productions which occur in the human species as dependent upon, or attributable to, something connected with our peculiar mode of existence, and that a kind of scale may almost be constructed as to the number and variety of deviations from the natural form and character, in proportion to the advancement in domestication or civilization—hence, man may stand at the top of the scale as to the frequency of deviation, and he is also subject to a greater number of complicated and severe diseases than any other being is afflicted with.

3. *A New Method of Tying the Arteries in Aneurism, Amputation, and other surgical operations.* (Vol. VI. p. 156.) This method consists in tying the vessels with very fine silk ligature, and cutting off the ends as close to the knot as is consistent with the security of the means. Mr. L.

has not found the presence of the knot or minute portion used to interfere with the process of adhesion, and is in the habit of employing this mode, not having met with any irritation or disturbance resulting from its use. To remove any impediment to the process of union by the *first intention* is certainly of the highest moment in surgery, and Mr. L.'s method would doubtless have been more generally adopted than it has been, but for the very natural dread of hæmorrhage by any accident to the ligature thus applied. Mr. L.'s paper contains the detail of a number of cases of various operations illustrative of the efficiency of the method of tying arteries proposed by him in this communication.

4. *Two Cases of the true Elephantiasis, or Lepra Arabum.* (Vol. VI. p. 209.) This is a joint account, given by Mr. L. and Dr. Southey. It is a disease of very rare occurrence in this country. An instance in a boy of English parentage was admitted into St. Bartholomew's Hospital in 1814, and another in a female, a native of Bombay, the daughter of an English officer by a Hindoo woman, was observed by Dr. S. in 1815. In the boy, (born in the United States,) the disease began in the head, and extended to the upper and lower limbs, leaving the trunk free of the affection. It commenced with small flattened tubercular elevations, gradually increasing to a large size. In colour and consistence at first they hardly differed from the healthy skin; but they soon assumed a red hue, which approached in some instances to a livid colour. In some parts they had small white scales on their surfaces, and some of the tubercles cracked and formed ulcerations, but these were neither deep nor extensive, but sufficient to form hard crusts upon the surface. The hairy scalp was not affected, but the membrane of the palate and the velum palati was tuberculated. No "femoral tumour," as described by Dr. Adams in the cases he observed at Madeira, existed in this instance; but an inguinal gland on each side was rather more distinct than usual. The developement of the generative organs was not only checked upon the breaking out of the disease, as stated by Dr. A., but they were withered and diminished. His general health, however, appeared but little affected. "Medicines were obviously inefficacious, to say the least." He was admitted into the hospital April 1, 1814, and was discharged February 2, 1815, the disease, after being for some time stationary, having begun to decline about the end of December—the ulcerations healed, and the tubercles disappeared. The skin recovered its natural colour, but the features were deformed by the numerous contractions occasioned by the healing of the ulcerated surfaces. With this amendment externally, there was reason to fear the progress of disease internally; he had cough, difficulty of breathing, &c., and became much emaciated. He appeared to labour under a pulmonary affection, of which his brother had died, and he was sent into Devonshire for a change of air.

5. *On some Affections of the Larynx which require the operation of Bronchotomy.* (Vol. VI. p. 221.) In this paper Mr. L. gives the detail

of two cases in which he has performed this operation for an affection of the larynx. He considers the first case to have been a spasmodic stricture of the glottis, caused by the irritation of disease in the lungs and pleuræ. The man was relieved from impending suffocation, and lived eight days after the operation, breathing with perfect ease, and entirely through the artificial opening. In the second case, the membrane of the chordæ vocales, sacculi laryngis, and front of the arytenoid cartilages was thickened and granulated, so as completely to shut the rima glottidis. The breathing was relieved by the operation; but it is feared that she died from obstruction to the passage of air into the trachea, by the excretion of viscid mucus which filled up the wound. Mr. L. attempted to remove a portion of the trachea, but the patient was averse to any thing further being done—she died on the second day after the operation. Mr. L. concludes his paper with references to the performance of this operation under different circumstances, which will be found useful to the surgeon, and point out the necessity of having recourse to it at an earlier period than that at which it is usually performed, and generally, therefore, with such an unsuccessful result. An *Appendix* to the paper contains the narrative of two cases, in one of which Mr. L. successfully employed the operation.

6. *Cases of Fungus Hæmatodes.* (Vol. VIII. p. 272. *Appendix*, p. 306.) The paper is by Mr. Langstaff, and will be noticed in a future memoir; but Mr. Lawrence has appended two cases, analogous to those described by Mr. Langstaff, which must here be referred to as examples of the extent to which this formidable malady may proceed.

7. *Further Observations on the Ligature of Arteries; to which is added a Case of Popliteal Aneurism.* (Vol. VIII. p. 490.) This paper is in continuation of that previously noticed. Extended observation of the practice enabled Mr. Lawrence to detect the separation of the ligature left upon the vessel, and its exit with the discharge from the wounded surface, or in cases where union by the first intention was more immediately effected, that they occasionally produced a trifling suppuration, and no painful inflammation, and that in others they remain quietly in the part. The case of popliteal aneurism is curious. It was mistaken for a large fleshy tumour. An abscess lancet was plunged into its softest part, but no fluid escaped. The limb was amputated, and the mass was found to be composed of firm coagula, not of the laminated kind usually found in aneurismal sacs, nor loose like that of recently coagulated blood. Mr. Lawrence concluded, that

> " the case had been originally a popliteal aneurism of the usual kind; that the sac had given way in front, so as to convert it from a circumscribed into a diffused aneurism, and thus to present the deceptive appearance of an immense sarcomatous tumour."

8. *On Dislocations of the Vertebræ.* (Vol. XIII. p. 387.) Many surgeons have doubted the possibility of this kind of accident without

fracture, except in the case of the first two vertebræ of the neck. In Sir A. Cooper's extensive practice, he never witnessed an instance of the kind. Boyer and Delpech deny its existence. Professor Rust, of Vienna, however, affirms it to have occurred in his own practice, and he cites another to confirm his statement. Mr. Lawrence relates a case, in which the body of the fourth cervical vertebra was completely detached from the fifth, the connecting fibro-cartilage being torn through, and the body of the former projecting by its whole depth in front of the latter. The man survived four days. This paper gives also an account of dislocations of the cervical vertebræ arising from disease.

9. *On the Treatment of Nævi Materni by Ligature.* (Vol. XIII. p. 420.) Where nævus is of magnitude, it is frequently dangerous to employ the knife; and where it is small, it is always troublesome. Fatal effects have been known to follow the operation. Caustics have been recommended, but they are subject to objection if applied over an extensive surface. Mr. Abernethy adopted cold applications and pressure; but although, in some few instances, the plan has been successful, in the greater number it has decidedly failed. Mr. Anthony White proposed the use of the ligature. His plan is, to pass a needle armed with a double ligature through the substance of the nævus, and thus include with a noose each half of the tumor. By cutting off all supply of blood, the nævus has sloughed off. Mr. Lawrence has successfully employed this method in several cases.

10. *Observations on the Nature and Treatment of Erysipelas.* (Vol. XIV. p. 1.) This is a very long paper, extending through more than two hundred pages. The subject is one of great importance in surgery, and there is much diversity of opinion as to the treatment of the disease. Mr. Lawrence is an advocate for a strictly antiphlogistic plan, regarding it as essentially an active inflammatory affection. The principal object of this paper is to recommend the treatment of phlegmonous erysipelas by incisions. The occurrence of this disease in patients of weak habits, and in those often reduced by long-continued disease, have alarmed surgeons, and prevented their having recourse to the lancet, as the principal remedy in such cases; indeed, many have discarded its use altogether, and relied upon tonics and other means to support and invigorate the system. Under these opposite modes of treatment, success has followed, and the profession is still divided upon the subject. As there are various kinds and degrees of erysipelatous inflammation, so will a varied treatment be necessary. Mr. Lawrence marks these distinctions, and holds phlegmonous erysipelas to be the highest degree of the affection, involving the cellular and adipose membrane, as well as the skin, causing suppuration and mortification, and, therefore, needing the employment of the most active remedies at the very outset of the disorder. The great peculiarity of erysipelas, and that which distinguishes it from ordinary inflammation, is certainly its tendency to

spread, and the manner in which this takes place. The rapidity with which the cellular membrane becomes involved in the disease, in cases of phlegmonous erysipelas, shows the necessity of adopting a vigorous mode of treatment, and my own practice leads me to give a decided preference to the method by incisions over all others—except in cases affecting the scalp, in which, the mode by puncture, recommended by Sir R. Dobson, is certainly productive of the most manifest advantage. Mr. L.'s paper will be perused with great interest, and may be regarded as the most complete account of erysipelas we possess, though there are still wanting some considerations, particularly those which relate to the question of its contagious character, to render the history perfect.

11. *Case of Phlegmasia Dolens.* (Vol. XVI. p. 58.) This is illustrative of the pathology of the disease advanced by Dr. D. Davis, Dr. Robert Lee, the late Dr. J. Sims, &c., and is to be regarded as supplementary to Dr. Lee's papers on the subject.

12. *History of a Case, in which, on examination after death, the Pancreas was found in a state of active Inflammation.* (Vol. XVI. p. 367.) Morbid affections of the pancreas are of rare occurrence, and Mr. Lawrence thinks that no pathologist has previously described inflammation of this gland. The scirrhous, or tuberculated condition of the organ, constitute the changes most frequently observed. Mr. L. has remarked, that the hardness so often met with in this organ, speedily subsides after death, and ought not, therefore, to be looked upon as a morbid condition.

13. *Observations on Tumours with Cases.* (Vol. XVII. p. 1.) To the labours of Mr. Abernethy we are indebted for the first attempt at a philosophical classification of tumours, of the formation and history of which, we are so imperfectly acquainted. Dr. Baron's views have been detailed in his memoir. Mr. Lawrence pretends to no theory on the subject, which is full of difficulties. No definition hitherto given of tumours, has been deemed satisfactory. We must, therefore, attend to histories, collect facts, and, at some future period, this department of pathological science may be more fully elucidated. Mr. L. gives an interesting account of a large cellular tumour, which he, at two several operations, successfully removed. It did not contain one particle of adipose matter. He records some cases of tumours resembling what Mr. Abernethy called *pancreatic sarcoma*, situated in the neighbourhood of the salivary glands; and also, some cases to show the great difficulty in the diagnosis between innocent and malignant growths.

Mr. Lawrence's lectures on the Diseases of the Eye have been reported in the Lancet, and his lectures on Surgery in the same publication, and in the Medical Gazette. A course of clinical surgery has also, during the last winter, been recorded in the Medical Gazette, and continues to be published in that journal. This brief narrative will enable the public and the profession to estimate the ability of Mr. Lawrence. With his talents, it

is impossible that such opportunities as have been recorded in this memoir, should not have tended to the advancement of medical science, and it is but bare justice to Mr. L. to say, that felicitously capable of communicating his knowledge, and attended by a large class of pupils, his endeavours have reaped due success in the formation of the character of those who are devoted to exercise the medical and surgical profession. It may, probably, be expected that I should notice the part Mr. L. took in 1826, in opposition to some regulations adopted by the Council of the Royal College of Surgeons. He presided at some public meetings at the Freemasons' Tavern at that time, and he published a corrected report of two speeches, delivered as chairman on the occasion. They gave great offence to the Council. The controversy related to grievances, the chief part of which have been redressed; and it is, perhaps sufficient, in the present place, merely to observe that, although the regulations of the College were fully open to the animadversions made in these speeches, yet that the general tone and manner of the remarks, with several of the particular expressions, were unsuitable and improper in a member of the College, and that a different mode of proceeding might have been more becoming, and more likely to attain the proposed end. I believe that no one is more sensible of this than Mr. L. himself, and being now a Member of the Council, he is furnished with ample means to use all his endeavours towards promoting the important objects for which the College was instituted.

It remains only to say, that Mr. Lawrence is a Member of several foreign Medical and other scientific societies, and that upon the formation of the household of Queen Victoria, he was appointed one of the Surgeons Extraordinary to Her Majesty.

MARCELLUS MALPIGHI, M.D. F.R.S.

"Ducere verò classum multo pulcherrimum."—QUINTILIAN.

MARCELLUS MALPIGHI, a celebrated Italian Anatomist and Physiologist, was born at Crevalcuore, near Bologna, March 10th, 1628, where he received instruction in Latin and Physiology; and being left, by the death of his parents, to his own discretion, at the age of twenty-one he made a selection of Medicine for his profession. In this choice he appears to have acted in conformity with the advice of his friend and counsellor, who was also his teacher in philosophy, the Professor Franciscus Natalis. From this period his studies were directed to physic, and on April 6th, 1653, he took his Doctor's degree. The University of Bologna, at this time, enjoyed great reputation as a school of medicine, and Malpighi greatly distinguished himself under the instructions of his teachers, Bartholomew Massari, and Andrew Mariano:— the former had a school for dissection in his own house. The *Thesis* sustained by Malpighi on the occasion of taking his degree, was in defence of the opinions and system of Hippocrates, which then was regarded as a bold procedure, for the doctrines of the Arabian schools were those chiefly entertained and professed. In 1655, his friend and teacher Massari died. This afflicted him severely, for he not only suffered the loss of a faithful friend, but also of a relation, having become connected with him by a marriage with his sister. Malpighi obtained a professorship in 1656, which he held, however, but for a short time, being invited to Pisa by Ferdinand II. the Grand Duke of Tuscany, the brother of Cardinal Leopold de Medici, who was very desirous of encouraging the arts and sciences in his dominions; and there Malpighi was appointed Professor of Physic. At this University he formed an acquaintance with the celebrated Borelli, renowned for his researches, and advocacy of the mechanical philosophy. From the discourses of the mathematician, Malpighi is said to have felt the superiority of experimental researches, over those which may be regarded as purely metaphysical. To the instructions of Borelli, Malpighi has often avowed, was owing entirely all the discoveries he had made. These philosophers laboured together with great assiduity, made numerous dissections of animals, and ascertained the muscular fibres of the heart to be of a spiral form; a discovery which has been solely ascribed to Borelli in his posthumous works.

The climate of Pisa was unfavourable to the naturally delicate health of Malpighi, and he was compelled to withdraw from the University, after a residence of three years. He returned to Bologna, to resume his former duties; but, in 1662, again quitted it for Messina, to succeed Peter Castelli, the first professor of physic, who was recently dead. The emolument attached to this appointment was considerable; but Malpighi was unwilling again to quit Bologna, nor could he be induced even to accept of the appointment, but by the entreaties of Borelli, who urged him to the step. He held, however, the Professorship only four years, returning to Bologna in 1666. The senate of Messina, by their Secretary, Nic. Ant. Ferrara, entreated him to continue with them; but the persecutions he had endured from the adherents to the ancient doctrines, and their blind attachment to the dogmas of the schools, the jealousy of his colleagues, and the numerous controversies in which their disputes involved him, determined him to retire to Bologna, and, taking up his residence at a villa in its vicinity, he there, as Persius beautifully expresses it,

"——— Modicus voti, presso lare, dulcis amicis,"

prosecuted those anatomical and physiological inquiries, by which he has become so well known to future ages. His reputation spread widely; and upon a proposition made at a meeting of the council of the Royal Society of London, March 1st, 1668, by Mr. Oldenburg, one of the secretaries, Malpighi was elected an Honorary Member. A copy of the diploma, signed by the President Brouncker, is given in his life prefixed to the "Opera Posthuma." Malpighi appears to have been very sensible of this honour, and much flattered by the distinction. The memoir of his life, written by himself, is addressed to the President and Fellows of the Royal Society. He maintained a constant correspondence with the Society—communicated to them the results of his researches—announced to them his discoveries, and presented to them his portrait, painted by Tabor, from which, by the obliging permission of the Council, I am enabled to present the accompanying engraving, the only one of this celebrated anatomist, as far as I know, that has ever been executed. The character of this portrait agrees with the description given of Malpighi, who is described as being of a serious and melancholy temperament. It is a countenance highly intellectual, and, as a work of art, the picture is of no mean importance. There are many letters and papers by Malpighi, preserved in the archives of the Royal Society, and there are also the original drawings from which the plates were executed, which accompany his works on the Anatomy of Plants, and the Incubation of the Chick.

Malpighi was not destined to remain at Bologna, for his reputation having reached various states, and the discoveries (presently to be noticed) made by him in anatomical science, the Cardinal Antoine Pignatelli, to whom he was known during the time the Cardinal was legate at Bologna,

upon being chosen Pope, in 1691, (whereupon he assumed the title of Innocent XII.) immediately sent for Malpighi to Rome, and appointed him his chief Physician and Chamberlain. But the health of Malpighi was in a very declining state, and he had become much enfeebled by repeated attacks of gout and nephritic affections. On the 25th of July, 1694, he had a fit of apoplexy at the Quirinal Palace, by which he lost the use of one half of his body, and in this miserable paralytic state he lingered until the 29th of November in the same year, when death released him from his sufferings. Mr. John Bell reports that two pounds of coagulated blood were found in the ventricles of his brain, by Baglivi.

Thus died Malpighi, in the 67th year of his age. In the last year of his life, he had been admitted into the Academy of the Arcadians at Rome. In 1683, he received from the University of Bologna a most flattering mark of the regard entertained for his talents and services, in the composition of an eulogium in Latin, which was engraved on marble, and placed in one of the public schools of the University. The remains of Malpighi were embalmed, and conveyed to Bologna, and there interred with great pomp and all funeral honours, in the Church of St. Gregory, where a statue is erected to his memory. The year preceding his death, a medal in bronze was struck at Rome, on one side of which was the head of Malpighi, and on the reverse, a design indicative of the science of botany, and the assistance it had received by the use of the microscope, in reference to the researches of Malpighi.

Malpighi is known to the world by his discoveries in the animal and vegetable kingdoms of nature. All were made on the sure ground of experience and observation. He was contemporary with Harvey, Redi, Rudbeck, and Bartholin, and lived at a time when nature began to be studied, rather than books; and his efforts to establish physiology upon a true basis, cannot be too highly applauded. He is entitled to the distinction of being "an original as well as a very profound observer." He carried his inquiries into the most minute and delicate parts of the organization of animals and plants, and the truth and value of many of his discoveries are very generally admitted at the present time. To notice his works in the order of their appearance, it is necessary to allude to—

1. *Observationes Anatomicæ de Pulmonibus, Bonon.* 1661, *folio.* These consist of two epistles addressed to Borelli. The work was again published at Copenhagen in 1663, in 8vo., together with the treatise of Bartholin on the same subject; at Leyden, in 1672, in 12mo.; and at Frankfort in 1678, 12mo. It is also to be found in the collection of Mangetus. This work contains the first published researches made into the structure of the lungs, by the employment of the microscope; and in the second epistle, he states the manner in which he observed the circulation of the blood by means of this instrument in the membranous parts of the lungs, and in the mesentery. This, it must be recollected, is thirty-

seven years previously to Leuwenhoek's experiments being made. Malpighi also gave information relative to the nature of the crassamentum, which he states consists of white fibrous substance united to a red colouring matter, and he saw the red particles which Leuwenhoek afterwards so particularly observed and described. Malpighi gives a very good description, and a plate illustrating it, of the arrangement of structure, by which the lungs are enabled to transmit the air, so that it shall have the means of acting upon the blood in its transit through these organs. The objections brought against his opinions on this subject, by Sir George Ent, Swammerdam, Willis, Borelli, Mini, and others, are replied to by Malpighi in his "Opera Posthuma."

2. *Epistolæ Anatomicæ: De linguâ, de cerebro, de externo tactûs organo, de omento, de pinguedine et adiposis ductibus. Bononiæ*, 1661-65. 12*mo.* Also at Naples, 1663; and at Amsterdam, in 1667. This work records the discovery of the Rete Mucosum. That portion of the structure of the skin usually known under this denomination, was first demonstrated by Malpighi. It has frequently been called the *Rete Malpighii.* He described it as consisting of a structure of soft matter, disposed in the form of fibres, crossing each other in various directions, and situated between the epidermis and the cutis, being an intermediate layer between the cuticle and the true skin. The reticulated structure of this substance has been denied by Blumenbach, and other authorities, by whom it has been looked upon merely as soft pulpy matter. Bichat looked upon it as a mere net-work of delicate blood-vessels, which having passed through the true skin beneath, was branching off in innumerable ramifications on the surface. He did not regard it as entitled to the appellation of a membrane at all. Former anatomists, of great eminence, however, had considered it in this light, and among the illustrious names who entertained this opinion, it may be sufficient for the present purpose to name those of whom this work has already given an account, Albinus and Ruysch. More modern anatomists have likewise maintained the accuracy of Malpighi. Cruikshank, who devoted great labour to the anatomy of the skin, never doubted its existence as a membrane; and as in this part the colouring matter was supposed to be resident, and as the thickness of this substance was necessarily in relation to the colour of the individual, so in the negro it is said to admit of demonstration. Professor Müller, of Berlin, admits the rete of Malpighi, recognizes it as the soft layer of the epidermis, and states it to contain, in the negro, coloured vesicular bodies. The opinion as to the rete mucosum being the seat of the colour of the skin, was put forth by Malpighi. The colour is certainly not dependent upon that of the blood circulating in the skin, for that is the same in the natives of all climates. Whence, then, is derived the copper-colour of the aboriginal American, the yellow of the Chinese, the black of the Negro, or the different shades approaching to whiteness in the European? The necessity of some body

in which this should be resident, seems manifest; but it has not hitherto been satisfactorily shown.

3. *De Viscerum Structura, exercitationes anatomicæ; accedit dissertatio de Polypo Cordis.* Bonon. 1666, 4to. Also at Amsterdam and London in 1669, 12mo; and at Frankfort in 1678, 12mo. It has been translated into French by Sauvalle, and printed at Paris, 1683, 12mo. The polypi here alluded to and described, consist of those masses of coagulable lymph which are frequently found in the auricles and ventricles of the heart where death has been very gradually produced. Malpighi's work contains a chemical analysis of the blood, the best that had been made up to his time; and he inferred that the polypi, the pleuritic adhesions, and the fibrous part of the blood, were of the same nature.

4. *Dissertatio Epistolica de Formatione Pulli in Ovo.* Lond. 1666 and 1673, 4to. Translated into French, Paris, 1686, 12mo; Geneva, 1685, folio. These researches are principally illustrated by the aid of the microscope, and his examinations into the developement of the chick in the egg must be admitted to have added much to the dissemination of real knowledge in his day upon the subject. From the following extracts, taken from the minute-books of the councils of the Royal Society, this work would appear to have been published at the expense of the Society:

"June 12, 1672. Ordered, That Mons. Malpighi's book, intituled, *Marcelli Malpighii Phil. et Medici Bononiensis, Dissertatio Epistolica de Formatione Pulli in Ovo*, be printed by the printer of the Royal Society, and the form of the license to be as forthwith: Junii 12, 1672. In Concilio Regiæ Societatis Londini ad Scientiam Naturalem promovendam institutæ TRACTATUS, cui Titulus, &c. (This is signed by the president, Brouncker.) Nov. 13, 1672. Ordered, That what copies of Sig. Malpighi's book, *De Formatione Pulli in Ovo*, the printer will not furnish for the Author gratis, shall be paid for by the Society, who lately ordered 30 copies of it to be sent to Bononia for the said Author."

5. *Dissertatio Epistolica de Bombyce.* Lond. 1669, 4to. At Paris, (in French,) 1686, 12mo. His inquiries into the anatomy and transformations of the insects, particularly of the silk-worm, are worthy of the high character and reputation of the author.

6. *Anatome Plantarum cum Appendice de Ovo Incubato.* Lond. 1675-1679. 2 vols. folio. Another edition in 1686. This work was addressed to the Royal Society. By the microscope, Malpighi may here be said to have been one of the first to observe and establish the sexual difference in plants. He made inquiries into the structure and composition of the component parts of vegetables, upon which very little was known previously. He even notices their diseases, the formation of galls, &c. Both Malpighi and Grew laboured at the same time to exhibit the minute structure of plants, and many of their observations remain undisputed at the present day. A few, and we cannot but be struck with the paucity of their number, considering the difficulties attendant upon the subject, have been

disproved, and the most important of these merits attention. These vegetable physiologists erroneously conceived that the sap was transmitted by the woody fibres of the plant; although, by the microscope, they were unable to detect the channels by which the cause was maintained. The merits of Malpighi in illustration of the organization of the vegetable kingdom has been acknowledged by Plumier, who named a genus of plants of the class and order of Decandria Trigynia after him. Linnæus describes nine species of the genus; but thirteen are introduced into the Hortus Kewensis, and twenty in Wildenhow. The fruit of the "Malpighia," a species of cherry, is gathered promiscuously in the West Indies, and eaten there; it has a pleasant acid flavour. The employment of the microscope in examining into the structure of plants led Malpighi to investigate the formation of bone, and he is to be considered as the first to show that the basis of this structure consisted of an animal matter so disposed as to correspond in appearance with that of cellular substance.

7. *Opera Omnia.* Lond. 1686-7. 2 vols. folio; and Lugd. 1687, 2 vols. 4to.

8. *Epistola de Glandulis Conglobatis, Lond.* 1689, 4*to.; and Lugd.* 1690, 4*to.* Of the intimate structure of glands, there has been considerable controversy, and the real condition of these organs scarcely appears to be definitively settled at the present day. The microscope must be resorted to, to determine these points. Malpighi, as has already been remarked, was one of the first of physiologists to employ its aid in determining questions of minute anatomy, and his statements have, in general, been found to be based in truth and accurate observation. In extending his researches into the glandular system, he remarked, that the immediate organ of secretion appeared to be in all cases a cavity or a follicle. The minute injections of Ruysch, disposed him to consider the precise organs of secretion to be in the termination of the artery, bringing the blood, the material for the secretion, into the mouth or commencement of the excretory duct, or that canal by which the secretion, when laborated, should be carried off: Malpighi, it will be seen, contends for an intervening organ, whilst Ruysch does not admit of the existence of any such apparatus. The opinions of Malpighi stood undisputed from 1665 to 1696, when Ruysch published his remarks upon the subject. Haller coincides with Rusych, and he gives, in his *Elementa Physiologiæ, vol. vii.*, a very full account of the successive steps in the discussion—a discussion which, in an extraordinary degree, excited the attention of anatomists and physiologists, towards the close of the seventeenth and commencement of the eighteenth centuries. Malpighi's opinions are to be found in the work now noticed; also in the *Exercitat. de Viscer. struct. cap.* 2, 3, containing an account of the liver, and in the *Opera Posthuma, p.* 101. But the methods by which secretion is effected, varies according to the parts by which it is performed, and Dr. Young enumerates among the different

structures by which this operation is performed: exhalent vessels, tubular glands, conglomerated glands, follicles, pores, parenchymatous glands. *(Medical Literature, p.* 110.*)* And we know that in many organs the glandular apparatus is much more simple than in others. But the whole process of secretion must be looked upon as a mystery, to unravel which, is no easy task—yet the difficulties ought rather to excite than depress all attempts made to detail its real nature and condition.

" Ipsa denique utilissima est exercitationis difficultas."—QUINTILLIAN.

Müller has shown that Malpighi's theory was founded on good general views; but that he was in error somewhat as to the details. Perfection, however, is not to be looked for in the earlier period of so elaborate an inquiry, and of his labours, with respect to the structure of the glands, it may fairly be said, that it is something to proceed thus far, if it is not permitted to go further:

" Est quoddam prodire tenus si non datur ultra."—HOR.

The essential elementary parts of the compound glands, were unknown to him, and each of the parts described by him as follicles, have been found to consist of an aggregate mass of many of the more minute real elementary parts. There is no doubt that the injections of Ruysch extravasated, and that the conclusion he drew from them was erroneous. Müller's injections have demonstrated this, and he, therefore, holds the theory of Malpighi as correct, although he was unacquainted with the true glandular elements. The great truth established by Malpighi is, that all the terminal branches of the ducts have closed extremities.

9. *Opera Posthuma cum Vita à Seipso scripta, edited by P. Regis, Professor at Montpellier. Lond.* 1697, *fol. Also at Amsterdam, in* 1698, *and in* 1700, *in 4to.; at Venice,* 1698, *and in* 1743, *folio.* The life is written to the year 1691, at the time he was appointed to Pope Innocent XII. A note giving the date of his death, and the disease of which he died, is added by the editor.

10. *Consultationum Medicinalium Centuria Prima. Patav.* 1713, *4to.* This was published by Jer. Gaspari, a physician at Verona. Also at Venice, in 1748, with the Consultations of Lancisi. The matter contained in this work, does not place the practical character of Malpighi in a very prominent light. His attention was principally directed to anatomical and physiological inquiries, and clinical medicine does not appear to have been much studied by Malpighi. He has, however, the merit of pointing out the mischief arising from bleeding in the malignant epidemics prevalent in Italy during his practice.

Besides these distinct publications, Malpighi made communications to the Royal Society; and in the Philosophical Transactions, notices of these are to found. In the second volume, (p. 491,) is, " *An Account of some Dis-*

coveries concerning the Brain and the Tongue, made by Signor Malpighi, Professor of Physic in Sicily." And in the same volume, (p. 552,) "*An Observation about the Epiploon, or the Double Membrane, which covers the Entrails of Animals, and is filled with Fat.*" In the sixth volume, (p. 2149,) is, "*An Extract from a Latin Letter written by Malpighi, concerning some Anatomical Observations about the Structure of the Lungs of Frogs, Tortoises, &c., and perfecter animals; as also the Texture of the Spleen, &c., dated Bononiæ, 20th Feb.* 1671. In the fourteenth volume, (p. 601,) for January 1684, is a Latin letter addressed to Dr. James Spon, "*concerning a Horn hanging at the Neck of an Ox; as also concerning a Kidney of an unusual shape and texture, with some Observations concerning Horns and Glandules in general.*" In the same volume, (p. 630,) is, "*A Letter to Dr. Spon, concerning the Structure of the Womb, &c.*"

The notice thus given of the labours of Malpighi, shows him to have been zealous in the promotion of science, and a considerable benefactor to physiological knowledge. His contemporaries have described him as a man no less distinguished by his philosophical zeal, than by his singular modesty.

John Pringle

SIR JOHN PRINGLE, BART. M.D. F.R.S.

ETC. ETC. ETC.

"Vir illustris—de omnibus bonis artibus benè meritus."
HALLER *Bibl. Anat.*

THE subject of the present memoir was a native of North Britain, being born at Stichel House, in the county of Roxburghshire, on the 10th of April, 1707, and descended from an ancient and honourable family. Having acquired the rudiments of his education under a private tutor, he was sent to the University of St. Andrew's, studying particularly under the care of a relative, Mr. Francis Pringle, who, at that time, was Professor of Greek in the College. Thence he removed to Edinburgh, in October, 1727, where, however, he only remained one year. Mr. James Boswell, the biographer of Dr. Samuel Johnson, who was on terms of intimacy with Sir John Pringle, says that he went to Amsterdam for the purpose of devoting himself to mercantile pursuits; but, that being at Leyden, he accidentally heard a lecture on medicine, by the celebrated Professor Boerhaave, which determined him to attend to physic. He, therefore, entered under this teacher, and diligently cultivated the necessary branches of professional education. He formed a close intimacy with Gerard Van Swieten, the commentator on Boerhaave, and took his degree of M.D. at Leyden, July 20th, 1730; delivering as his thesis on the occasion, a dissertation, "De Marcore Senili.' This is dedicated to Dr. Francis Pringle, President of the College of Physicians, Edinburgh, and Mr. F. Pringle, Professor of Greek. He perfected his medical studies at Paris, and thence returned to Edinburgh, where he settled as a physician, and was held in much esteem by the Professors of the College and the magistrates of the city, for his abilities, good conduct, and the attention he paid to his profession, and to the subjects of natural religion and morality.

On the 28th of March, 1734, he was nominated to a singular appointment by the magistrates and council of Edinburgh—that of joint Professor of Pneumatics and Moral Philosophy with Mr. Scott, during Mr. S.'s life, and afterwards to the entire professorship; and, on this day, he was admitted a Member of the University. He annually delivered lectures on

the immateriality and immortality of the soul, and zealously performed the duties of his office.

In 1742, he was made physician to the Earl of Stair, who was in command of the British army in Flanders, whither Pringle removed, and there had the care of the Military Hospital, receiving a salary of twenty shillings *per diem* whilst on service, and being entitled to half-pay during his life. Hence arose his work on the diseases of the army, by which, as a medical practitioner, he is principally known. It was during Dr. Pringle's connexion with the army, that an arrangement was made most interesting to humanity. It was usual, upon the approach of the enemy, to remove the sick to a considerable distance from the camp, so that many soldiers were lost before they could receive any assistance from the medical staff. The Earl of Stair proposed to the Duke de Noailles, who commanded the opposing army, that the hospitals on both sides should be considered as sanctuaries for the sick, and mutually protected. This was immediately acceded to, and the terms of the agreement were rigidly enforced.

Dr. Pringle remained in Flanders during the campaign of 1744, and by his conduct attracted the regard of the Duke of Cumberland, who, on March 11th, 1745, honoured him with a commission, by which he was appointed Physician General to his majesty's forces in the Low Countries, and the parts beyond the seas; and another, by which he was also made Physician to the Royal Hospitals in the same countries. Upon receiving these, he resigned his professorship at Edinburgh, the duties of which had been performed in his absence, by Messrs. Muirhead and Cleghorn. In the same year, however, he was sent with the forces against the rebels in Scotland. After the battle of Culloden, he remained with the army until August 1746, and in 1747 and in 1748, he was again with the troops abroad, and did not return to England till the conclusion of the treaty of Aix-la-Chapelle. He now took up his residence in London, and, in 1749, was appointed Physician in Ordinary to the Duke of Cumberland, but he did not become a licentiate of the Royal College of Physicians until the 5th of July, 1758.

In 1742, he printed a paper in the fifth volume of the Edinburgh Medical Essays and Observations, entitled, *Vitrum Antimonii ceratum, a specific Medicine in the Dysentery.* This composition was long regarded as a specific for the cure of this disease; like many others, however, it has fallen into disuse, various preparations being found to be more beneficial in the relief of this condition. Several testimonies to the efficacy of the medicine by various practitioners of eminence, are appended to the communication.

In 1750-51 and 52, he presented to the Royal Society, into which he had been elected a Fellow, October 30th, 1745, seven papers, containing the account of *Experiments on Substances resisting Putrefaction.* Three of these were printed in the Philosophical Transactions, (Vols. 46, 48,) and

the remainder were added to them, and printed separately, as an appendix to his work on the Diseases of the Army. For these papers, the President and Council of the Royal Society awarded to him the Copley medal.

In 1750, he put forth *Observations on the Jail or Hospital Fever*, in a letter addressed to Dr. Mead, in consequence of the appearance of this disease in the prison of Newgate. It was a hasty performance, occasioned by the great anxiety entertained on the subject. The public mind was much alarmed by the direful effects arising from the assembling of several criminals in too close and crowded a place, by which the lord-mayor, Sir Christopher Pennant—two of the judges, Sir Thomas Abney and Baron Clarke—one of the aldermen, Sir Daniel Lambert, and many other persons, amounting to upwards of forty, lost their lives from the contagious effluvia dissipated during their attendance at the sessions at the Old Bailey. This letter gives an account of the distemper, its mode of treatment, and the best means of prevention. Dr. P. strongly recommended the employment of ammonia in these cases, which, at this period, was considered as remarkable, where "manifest signs of putrefaction" had appeared. He has the merit of having shown it to be a powerful antiseptic, The "Observations" were afterwards corrected and amended, and printed in his work on the Diseases of the Army.

In 1752, the first edition of *Observations on the Diseases of the Army*, made its appearance. It was reprinted in the ensuing year, and has gone through many editions, the last of which bears the date of 1810. This duration of the work is a good proof of its value. It was much esteemed abroad, and has been translated into the French, Italian, and German languages. It is rather remarkable, that no general account of the diseases incident to armies should be found in the writings of any of the ancient physicians. If we except some particular relations given by Xenophon, Pliny, Plutarch, Livy, and Diodorus Siculus, we really possess nothing on the subject until modern times, and Sir John Pringle's work must be considered as taking the lead in this branch of professional inquiry. By the assistance of a journal, containing a careful record of observations, he has laboured to trace the causes of military disorders as dependent upon particular conditions of the air, peculiarities of diet, &c. He has judiciously considered the effects of short or long campaigns upon the health, and the period of the year at which they are undertaken; amassing much valuable information, to the officers and to the medical staff, to whom the latter portions of his work are particularly addressed, as containing directions for the treatment of the several diseases included in his history. The work gives an account of the endemic diseases of the Low Countries, and those with which the British troops were affected whilst in garrison in Flanders, in cantonments in Germany, or in the field during the several campaigns of the war. It gives the result of Dr. Pringle's experience, and shows that his attention was well directed to the history of the diseases as connected with

the condition of the weather. The improvements introduced into military practice may, perhaps, fairly be dated from the appearance of this publication. The reputation this work had secured for him made him determine to quit the army, and devote himself entirely to private practice. He was made Physician to the Queen's Household in 1761, and in 1763 Physician Extraordinary to the Queen. He was elected a Fellow of the College of Physicians in the same year, and in 1764, upon the death of Dr. Woolaston, he was made Physician in Ordinary to the Queen. In 1766 he was raised to the dignity of a Baronet, and in 1774 he was appointed Physician Extraordinary to the King. He was also Physician in Ordinary to the Princess Dowager of Wales. Sir John Pringle received various marks of distinction from foreign academies, being chosen a Member of the Academy of Sciences at Haarlem, and of the Royal Society of Göttingen.

Dr. Pringle's papers on Substances resisting Putrefaction, read before the Royal Society, have been already mentioned. He contributed several other papers to the Philosophical Transactions. In 1753 he gave *An Account of several Persons seized with the Gaol Fever working in Newgate; and of the manner in which the Infection was communicated to one entire Family;** also, *A Remarkable Case of Fragility, Flexibility, and Dissolution of the Bones;*† in which all the osseous system was affected, so that the bones offered little or no resistance to the knife, and the height of the individual was reduced to two feet two inches.—*A Letter upon an extraordinary Agitation of the Waters.*‡—*An Account of the Earthquakes felt at Brussels.*§—*An Account of the Agitation of the Waters on the 1st of Nov.* 1756, *in Scotland and in Hamburgh.*‖—*An Account of the Case of the late Rt. Hon. Horace Lord Walpole.*¶—*An Account of the Virtues of Soap in dissolving the Stone.***—*Some Remarks upon the several Accounts of the Fiery Meteor which appeared on the 26th of Nov.* 1758, *and upon other such Bodies.*††

The foregoing papers will show the interest Sir John Pringle took in promoting the objects of the Royal Society. He had been on four several occasions elected into the council, and in 1772 he was chosen President of that learned body. At this time the spirit for experimental investigation was pursued with considerable ardour. Sir John Pringle fostered this spirit in every possible way, and was most zealous in obtaining papers for the Society, and in stimulating the members to increased exertion. He was the first President of the Society to deliver an extended discourse upon the assignment of the Copley Medal to such Fellows as should have furnished the best experimental paper during the year, according to the will of Sir Godfrey Copley. These *Discourses*, six in number, were collected together and arranged for the press by the author, to be published after his death,

* Phil. Trans. Vol. XLVIII. p. 42. † Ibid. p. 297.
‡ Phil. Trans. Vol.. XLIX. p. 360. § Ibid. p. 546. ‖ Ibid. p. 550.
¶ Vol. L. p. 205. ** Ibid. p. 221. †† Vol. LI. p. 259.

and they were made public in 1783 by the Rev. Dr. Kippis, and prefaced by an Account of the Life of the President. The subjects of these Discourses embrace the particular consideration of the branch of science for the experiments on which the medal was bestowed, and the following is the list of those so honoured during the presidency of Sir John Pringle:

1. To the Rev. Joseph Priestley, LL.D., for his *Observations on Different Kinds of Air.*

2. To Mr. Walsh, for his *Observations on the Torpedo.*

3. To the Rev. Nevil Maskelyne, Astronomer Royal, for his *Observations made on the Mountain Schehallien, for finding its attraction.*

4. To Captain James Cook, for *An Account of the method he had taken to Preserve the Health of the Crew of his majesty's ship the Resolution, during her late Voyage round the World.*

5. To Mr. John Mudge, for his *Directions for making the best Composition for the Metals of Reflecting Telescopes, together with a Description of the process for grinding, polishing, and giving the great speculum the true parabolic form.*

6. To Mr. Charles Hutton, for his paper on *The Force of fired Gunpowder, and the initial Velocity of Cannon-Balls, determined by Experiments.*

The whole of these Discourses reflect great credit upon Sir John Pringle, for they exhibit his acquaintance with the history of the various branches of philosophy embraced by them.

In 1778, being then in his seventy-second year, he sustained an injury from a fall, by which his health and spirits became much affected, and he resolved to retire from the chair of the Royal Society. He was succeeded by the late Sir Joseph Banks, Bart.

The natural love entertained by all for the place of their birth operated upon Sir John Pringle towards the close of his life, and in 1780 he paid a visit to Edinburgh, and purchased a house, to which he retired in the ensuing year. His spirits, however, were not cheered by his change of residence—his old friends and contemporaries had gone before him, and he was not in a state to form new connexions. He found also that the northern climate was too sharp for his now enfeebled frame, and he returned to London, leaving, as a memento, to the Royal College of Physicians of Edinburgh, ten folio volumes of MS. medical and physical observations. He resumed his Sunday evening conversazioni, and his chief delight was in the company of a few select friends, who had formed themselves into a society, and held their meetings at the house of a Mr. Watson, a grocer, in the Strand. The society consisted of Lord Charles Cavendish, Mr. Cavendish, Dr. Ross, (bishop of Exeter,) Dr. Heberden, Dr. Watson, Sir George Baker, Dr. Richard Saunders, and a few others of well-known talent. At one of these meetings he was seized with a fit, from which he never recovered. He died on the 18th of January, 1782, being then in the

seventy-fifth year of his age. He was interred in the church of St. James, Westminster, and a monument by Nollekens was erected to his memory in Westminster Abbey.

By his profession he had acquired a very handsome fortune, and in the exercise of his duties he was ever remarked by his liberality to, and regard for, the poor. He was a perspicuous and accurate writer—his descriptions are distinguished by their propriety of expression and attention to style. Dr. Kippis tells us he had no relish for poetry; but he was fond of music. He paid considerable attention to divinity, and corresponded with the celebrated Michaelis, who addressed to him some Letters on Daniel's Prophecy of the Seventy Weeks. These he caused to be printed.* He was distinguished by his integrity and sobriety. He was rather dry and reserved in his manners, but firm in his friendships. He maintained an extensive correspondence with scientific foreigners, and it is to be regretted that he destroyed all his letters a short time before his decease. I have already noticed the professional appointments Sir John Pringle held in connexion with the court, and enumerated some of the collegiate and academic bodies to which he was attached. In addition to these, it may be stated, that he was a Fellow of the Society of Antiquaries; a Member of the Royal Academy of Sciences of Madrid; of the Royal Academy of Medical Correspondence of Paris; of the Imperial Academy of Sciences of Petersburgh; of the Royal Academy of Sciences of Paris, being elected Foreign Associate upon the death of Linnæus; of the Royal Academy of Sciences and Belles Lettres at Naples; of the Agricultural Society of Amsterdam; of the Antiquarian Society of Edinburgh, and of that of Cassel; of the Medical Society of Hanau, &c. &c.

The Portrait which accompanies this Memoir is taken from a painting by Sir Joshua Reynolds belonging to the Royal Society. I am indebted to the Council for their permission to have it engraved.

* "Joannis Davidis Michaelis, Prof. Ordin. Philos. et Soc. Reg. Scient. Goettingensis Collegæ, Epistolæ, de LXX Hebdomadibus Danielis, ad D. Joannem Pringle, Baronettum: primò privatim missæ, nunc vero utriusque consensu publicè editæ. Lond. 1773. 8vo.

ANDREAS VESALIUS.

> "Philosophers say, that man is a microcosm, or little world, resembling in miniature every part of the great: and, in my opinion, the body natural may be compared to the body politic: and if this be so, how can the Epicurean's opinion be true, that the universe was formed by a fortuitous concourse of atoms; which I will no more believe, than that the accidental jumbling of the letters of the alphabet, could fall by chance into a most ingenious and learned treatise of philosophy."
>
> SWIFT.

THERE is not a name of greater renown in the record of professional characters, than that which is placed at the head of this article. The subject of it, ANDREW VESALIUS, was a native of Brussels, but the precise year of his birth is somewhat uncertain, being stated as April 30, 1513, and December 31, 1514. Boerhaave and Albinus give the latter date from an inscription upon one of his portraits, and are so minute as to state it to have taken place about five o'clock in the morning:—*dodrante post quintam matutinam.* His family, belonging to the city of Vesel, in the duchy of Cleves, is celebrated for the number of eminent medical men derived from it. His great-grandfather, John Vesalius, was physician to Mary of Burgundy, wife of Maximilian I.; his grandfather, Edward, wrote Commentaries on some of the Aphorisms of Hippocrates, and on the writings of Rhazes; and his father was apothecary to the Archduke, afterwards Emperor Charles V. The passion for anatomy, by which Andrew Vesalius became so well known, manifested itself at a very early period, for whilst acquiring his general education at Louvain, where he attained to a great knowledge of the Greek and Latin languages, and other branches of scholastic education, he was found amusing himself by the dissection of rats, moles, dogs, cats, &c., and in making observations on the various parts of their bodies. He passed from Louvain to Cologne, and thence to France, where he resided at Montpelier. His principal teacher was James Sylvius, or Jacques de la Boe, at Paris, but he also studied under John Fernelius and Guinther, of Andernach. Human anatomy, at this period, could scarcely be said to be cultivated as a science; the practice of dissection was regarded as unlawful and impious, the knowledge of the schools was looked upon as sacred, and no one dared to question the validity of the received doctrines of the ancients. In this state of things, in which the human intellect was so hideously trammelled, it

is astonishing that such advances in anatomical science should have been made, and these were solely attributable to the energy of one man.

The work of Vesalius, *De Humani Corporis Fabrica,* was composed by him at a very early age; and it is not going beyond the limits of truth and correct observation to say, that its pages may, for several particulars, be consulted at the present day with advantage. Hippocrates has been styled the father of physic; Haller, the father of physiology; and Vesalius may fairly be considered as the father of human anatomy. The violence of the war carried on between Francis I. and Charles V.. compelled Vesalius to quit France. He served in the Imperial troops in the Low Countries as a physician, and as a surgeon from 1535 to 1537. He then travelled into Italy, making demonstrations, and reading lectures at Pisa, Bologna, and other places. He was made Professor of Anatomy in the university of Padua, about the year 1537, by the republic of Venice, and he taught in this office during seven years. In 1544, he was appointed chief physician to Charles V., and when this renowned prince abdicated in 1555, Vesalius was appointed by his successor, Philip II. This monarch's confidence in him was unbounded, from an unexpected cure which he had effected in the case of the infant Don Carlos, who had sustained a severe injury of the head from a fall. His reputation for skill and sagacity at court was so great, that it created for him many enemies, he being looked upon as a foreigner.

In 1546 Vesalius went to Basle, to make arrangements for a new edition of his work; and here being long detained, he prepared a human skeleton, and presented it to the university of that place. It is said to have been there at a late period, with the following inscription placed over it, to commemorate the gift of the illustrious donor:—

"ANDREAS VESALIUS. BRUXELLEN.
CAROLI V. AUG. ARCHIATRUS
LAUDATISS. ANATOMICARUM
ADMINISTR. COMM.
IN HAC URBE REGIA
PUBLICATURUS
VIRILE QUOD CERNIS SCELETON
ARTIS ET INDUSTRIÆ SUÆ
SPECIMEN.
ANNO CHRISTIANO
MDXLVI.
EXHIBUIT, EREXITQUE."

No one had reached so high an eminence in his profession; and at the summit of his glory and renown, he travelled into Palestine. The precise motives operating to this determination have never been satisfactorily stated; but the cause usually assigned for it, and generally credited, carries with it an especial interest in an anatomical and physiological point of view, and may be thus stated on the authority of Hubert Languet, in a letter addressed to Gaspar Peucer.

"Vesalius, (he says,) believing a young Spanish nobleman, whom he had attended, to be dead, obtained leave of his parents to open him, for the sake of inquiring into the real cause of his illness, which he had not rightly comprehended. This was granted; but he had no sooner made an incision into the body, than he perceived the symptoms of life, for, opening the breast, he saw the heart beat. The parents, coming afterwards to the knowledge of this, were not satisfied with prosecuting him for murder, but accused him of impiety to the inquisition, in hopes that he would be punished with greater rigour by the judges of that tribunal, than by those of the common law. But the king of Spain interposed, and saved him; on condition, however, that, by way of atoning for the crime, he should undertake a pilgrimage to the Holy Land."

Boerhaave and Albinus say that he was condemned by the Inquisition, from which he was, by the influence of Philip, saved. He made the pilgrimage with James Malatesta, general of the Venetian army, whom he accompanied to Cyprus, whence he passed to Jerusalem. There is much in the account given to excite unbelief as to its credibility, from the extent to which dissection must necessarily be made before the heart could be exposed; yet the possibility of the muscular fibres of this organ acting by their principle of irritability, a principle unknown in the time of Vesalius, remaining even after vitality had quitted the body, may tend to sanction the statement made.

In 1563, the principal chair at Padua became vacant by the death of his pupil, Fallopius, and Vesalius was, at the invitation of the senate of Venice, induced to return, to succeed this celebrated physician. On his voyage, however, a storm arose—he was shipwrecked—thrown upon the island of Zante, and there perished of hunger, on October 15, 1564. His body was recognized by a goldsmith of Venice, who procured an honourable entombment for it, in the church of St. Mary, of that island, and he placed the following inscription over his grave:—

ANDREÆ VESALII BRUXELLENSIS TUMULUS.
QUI OBIIT IDIBUS OCTOBRIS,
ANNO MDLXIV.
ÆTATIS VERO SUÆ QUINQUAGESIMO,
QUUM HIEROSOLYMIS REDIISSET.

Thus perished the immortal Vesalius, the greatest anatomist of his age, and one whose intimate knowledge of anatomical science will ever be recorded with the highest honour. His acquaintance with the various parts of the human frame was most intimate, and he is said to have enumerated every bone placed in his hands, he being blindfolded at the time. The work of Vesalius, *De Humana Corporis Fabrica*, is to be regarded as the chief and most useful labour of his life; but not less entitled to our esteem is the opposition he afforded to the Galenists of his day, and whose hatred he incurred by the severity of his censures, and his condemnation of the doctrines then embraced by the schools. The animosity excited by these endeavours to render medical science subject to the influence of

observation and common sense, subjected him to great persecution. The disputes ran to a fearful height, and were conducted with a bitterness of spirit not surpassed by any other event in the annals of medicine. He was persecuted on all sides for his exposition of the errors of the god of their idolatry, and his writings on this subject have not descended to us. Haller says he destroyed all the books of Galen which he had submitted to correction. One of the greatest, (if not the greatest,) advantages arising from the contest with the Galenists is, that, in the disputes, references were made to the *human* body, by which anatomy was greatly promoted. Vesalius has exhibited the utmost caution in separating the descriptions given from the dissections of animals and those upon the human body, and he is particular in detailing the modes pursued by him in his investigations. It is difficult to say upon what part of the frame his attention has been most directed, or his researches most valuable, for his work is a masterpiece of correct observation, for the period in which it was brought forth, and he is fairly entitled to greater praise than any preceding anatomist; and, by throwing off the prejudices attached to established opinions, has shown to future inquirers, the true path to sound anatomical information. The number of his enemies is alluded to by Portal: "Toute l'Europe (says he) fut remplie des injures qu'on vomissoit contre Vesale. Eustache à Rome, Driander à Marpurg, et Sylvius à Paris, s'éleverent contre lui."

The jealousy and envy of his preceptor Sylvius appears to have been called forth at an early period. He valued himself much upon his knowledge of the Greek tongue, in which Vesalius could both write and speak with facility. Sylvius accuses him of using the pen of others in his works, and Riolan adopts the same opinion. Sylvius could not restrain his animosity—he descended to abuse, and, in allusion to the opinions put forth by Vesalius, he has said, *Vesalium non esse, sed Vesanum.*

Among those who entered into this controversy, his pupil, Gabriel Fallopius, must not be omitted. In the opposition offered to some of the opinions put forth by Vesalius against the writings of Galen, he did not lose the respect due to his distinguished master, who replied to him the instant he received his observations, and in a manner remarkable for its courtesy, and worthy of imitation in controversial matters. Although Fallopius opposes himself to certain points alleged against Galen by Vesalius, he nevertheless admits that he was, in general, correct in his designation of the errors of the great physician.

Portal is lost in admiration of the genius of Vesalius, whilst contemplating the early production of an entire work upon the Anatomy of the Human Body, derived from actual observation and dissection, at a period when such investigations were held to be unlawful. His words are:

"Vésale me paroit un des plus grands hommes qui ait existé. Que les Astronomes me vantent Copernic; les Physiciens, Galilée, Toricelli, &c.; les Mathématiciens, Paschal; les Géographes, Christophe Colomb, je mettrai toujours

Vésale au-dessus de leurs héros. Le première étude pour l'homme, c'est l'homme, Vésale a eu ce noble objet, et l'a rempli dignement; il a fait sur lui-même, et dans les corps de tous les semblables, des découvertes que Colomb n'a pu faire qu'en se transportant à l'extrémité de l'univers. Les découvertes de Vésale touchent directement l'homme; en acquerant de nouvelles connoissances sur sa structure, l'homme agrandit, pour ainsi dire, son existence, au lieu que les découvertes de Géographie, d'Astronomie ne touchent l'homme que d'une maniere très indirecte. La maison de Vésale sort aujourd'hui de Convent aux Capuchins de Bruxelles. Ces Religieux se font encore un honneur de dater leurs lettres *ex ædibus Vesalianis*. On trouve des gens de goût dans tous les états."—*Hist. de l'Anat. et de Chirurg.* tom. i. p. 399.

The works of Vesalius may be arranged in the following order:

1. Paraphrasis in nonum librum Rhazæ ad Regem Almansorem, de affectuum singularium corporis partium curatione, Lovan. 1537, 12mo. Also at Leyden in 1551, and at Witteberg in 1587, in 8vo.

2. Epistola docens Venam Axillarem dextri cubiti in dolore laterali secandam, et melancholicum succum ex venæ portarum ramis ad sedem pertinentibus purgari, Basileæ, 1539, 4to.

3. Epitome de Humani Corporis Fabrica, Basileæ, 1542, fol. Idem. 1543; Paris, 1560; Colon. 1600; Leidæ, 1616; Amst. 1633, with notes by P. Paaw; 1642, with notes by Nic. Fontanus. This work has been translated into various languages, among others into the English, by Thomas Geminus, or Gemini, with the assistance of Nicholas Udall and others. Geminus was an engraver, and put forth the plates of Vesalius as of his own invention, whereas they are all copied from a German edition, illustrated with wood-cuts, of the publication, without acknowledgment. Two editions of this work in English were published, copies of both of which are in my library. They were preceded by a Latin edition in 1545, dedicated by Geminus to Henry viii. The English are of the dates of 1553 and 1559. They are in folio, and a good black letter. The title is, *Compendiosa totius Anatomie delineatio, ære exarata.* The first edition has a curiously engraved title-page, with the arms of England in the centre, surrounded by various allegorical figures. It is dedicated to King Edward VI., after which follows, *To the jentill readers and Surgeons of Englande, Nicolas Udall in the Lorde gretyng, with encreace of good Knowelage*, which address is dated 1552. At the conclusion of the work is, *Imprynted at London by Nycholas Hyll dwellynge in Saynte John's streate, for Thomas Geminus.* In the second edition, the title is wanting in my copy. It is dedicated to Queen Elizabeth, and terminates with *Imprinted at London within the blacke fryars: by Thomas Gemini.*

4. De Radicis Chynæ, Basileæ, 1542, 1546; Venet. 1546; Ratisb. 1546; Leyd. 1547, 12mo. This is a work of criticism rather than of Materia Medica. Vesalius used the China root with advantage in the case of Charles V.

5. De Humani Corporis Fabrica, Basileæ, 1543, fol. 1555, 1563; Venet. 1568, 1604; Francof. 1604, 1632, with the original plates. This, the chief work of Vesalius, was translated into many languages. The plates have uniformly been the subjects of praise and admiration, and the drawings from which they have been made have been, but incorrectly, ascribed even to Titian.

6. Epistola, rationem modumque propinandi radicis Chynæ decocti pertractans: et præter alia quædam, epistolæ cujusdam ad Jac. Sylvium. Basileæ, 1546, folio.

7 Anatomicarum Gabr. Falloppii Observationum examen. Venet. 1564, 4to

8. Anatomes Totius, ære insculpta delineatio cui addita est Epitome innumeris mendis repurgata quam de Corporis Humani Fabrica conscripsit clariss. A. Vesalius. Cum elucidatione à J. Grevino. Lutet. Par. 1565. fol.

9. Consilium pro illustrissimi Terræ-Novæ Ducis fistula. Venet. 1568, 4to.

10. Chirurgia Magna in septem libros digesta. Venet. 1569. This was published a few years after the death of Vesalius by one of his pupils, named Prosper Borgarucci. It is a mere compilation, and ought scarcely to be regarded as a work by Vesalius.

11. Opera Omnia Anatomica et Chirurgica. Cura Herm. Boerhaavii et B. S. Albini. Lugd. Batav. 1725, folio. 2 vols. This is the most complete edition of the Works of Vesalius, to which is prefixed a Life of the Author, referred to in the preceding memoir. The known character of the editors will recommend this edition in preference to all others. The plates are beautifully executed.

Various portraits of Vesalius have been handed down to us, and are to be found in several public collections. That engraved for this work is in the Royal College of Physicians—to the council of which body I am indebted for the permission to engrave it—and is by John de Calcar, or Kalcker. He resided in Venice, and studied in the school of Titian, and so successfully imitated his great master, that, according to Vasari, he has deceived several of the best judges. He was born in the duchy of Cleves in 1499, and died at Naples in 1546. He designed the anatomical figures for the work of Vesalius.

James Wordsworth

JAMES WARDROP, M.D.

SURGEON TO HIS LATE MAJESTY GEORGE IV.

> "Those who have arrived at any very eminent degree of excellence, in the practice of an art or profession, have commonly been actuated by a species of enthusiasm in their pursuit of it. They have kept one object in view, amidst all the vicissitudes of time and fortune." KNOX.

THE subject of the present memoir is the son of James Wardrop, Esq., and Christina, daughter of Alexander Marjoribanks, Esq., of Marjoribanks, and was born on the 14th of August, 1782, at Torbane-Hill, in the county of Linlithgow, a small property in a wild uncultivated district of Scotland, which belonged to his forefathers for many generations, adjoining the parishes in which the Hunters and Baillie first drew breath. Mr. Wardrop was educated at the High School of Edinburgh, a seminary whence have emanated many of the most renowned men Scotland has produced. After attending the literary classes of the University, he, at a very early age, entered upon the study of medicine, under the superintendence of his uncle, Dr. Andrew Wardrop, then a surgeon of considerable eminence in the Scotch metropolis. He became assistant to the celebrated anatomist Dr. Barclay, with whom he acquired a great fondness for anatomical pursuits, and, at the age of nineteen, he was appointed House-Surgeon at the Royal Infirmary. In the twentieth year of his age he repaired to London, where he attended successively the lectures of Abernethy, Cline, and Cooper, and also the practice of the hospitals of Guy and St. Thomas, and also that of St. George. Desirous of visiting the continental schools, which then were little known to British students, he went to Paris, though, at that time, war having commenced with England, the English residents in France were treated as prisoners. He contrived, however, by getting a small room in the Ecole de Medecine adjoining the museum, to evade the vigilance of the police, and pursue his studies unmolested; and, after residing there for some months, by the generosity of a French officer, he was provided with the means of leaving France, and passing into Germany. At Vienna he attended the lectures of Franck, Prochaska, and Beer, from the latter of whom he derived much of that zeal which led him afterwards to investigate the diseases of the eye.

In the twenty-second year of his age, he commenced the practice of his profession in Edinburgh, and, although he had always a predilection to surgery, he did not venture to give a preference to it, until he had made the experiment of performing an operation, to ascertain whether he possessed that temperament which would enable him to undertake the practice of surgery with comfort to himself; before twenty years of age, he therefore availed himself of an opportunity to amputate a thigh, for testing himself, which gave him confidence in selecting surgery for his profession. During his stay in Edinburgh, besides attending to the practical duties of his profession, he devoted himself to pathology; and the results of his labours are to be seen in his publications on the Morbid Anatomy of the Eye, on Fungus Hæmatodes, several papers in the Edinburgh Medical and Surgical Journal, and likewise in the article Surgery in the Encyclopædia Britannica. He also collected preparations of morbid parts, and laid the foundation of the present museum of the Royal College of Surgeons of Edinburgh; a collection which has since become of great value and importance. At this period, when Dr. Baillie visited his native country, after an absence of more than thirty years, his approbation of this infant museum, and the pathological researches in which Mr. Wardrop was at that time engaged, gave him great encouragement.

About the 27th year of his age, Mr. Wardrop left his native country, and came to London, and was admitted a Member of the Royal College of Surgeons, and commenced his profession under the most favourable circumstances. The great advantages which he had enjoyed when in Edinburgh, and the opportunities he had of performing all the great operations of surgery, made him regardless of attaching himself to any of the public hospitals when he settled in London; and he preferred seeing at his own abode those examples of disease, which are scarcely ever met with, except among the poor and working classes of society. In 1826, however, he was induced to institute an Hospital of Surgery, and the objects and principles on which this charity was conducted, were entirely new, and form an era in the history of our public hospitals. Besides this institution being established as a charitable institution, it served a great purpose, by its wards being thrown open gratuitously to the members of the profession; and on one day of each week there was held a *concours*, at which operations of any importance were usually performed, and interesting cases brought forward and made the subjects of conversation. At this weekly meeting, there were usually assembled from fifty to eighty visiters, embracing almost every scientific foreigner who happened to be in the metropolis. After conducting this hospital for upwards of eight years, the toil and fatigue of daily attending it were so great, that Mr. W., much against his inclination, was compelled to relinquish it. The reports of the "Hospital of Surgery," were published in the Lancet, and present an extraordinary number of interesting cases (being upwards of one hundred, of the first

importance,) a circumstance greatly owing to the general interest created from the hospital being thrown open to the public, and the eagerness with which professional men brought examples of curious and rare diseases, and heard the observations of the numerous visiters upon them.

It is a point of considerable interest to determine, whether the objects of the charitable and benevolent would not be more effectually secured, and the interests of science more essentially promoted, by the establishment of a number of small hospitals, than by the larger and almost overgrown institutions which now exist. Many of the most eminent surgeons abroad, whose writings have been distinguished by the value of their practical tendency, have been attached to small hospitals. The names of Richter and Scarpa will immediately occur to the professional reader; and the evidence given before the committee of the House of Commons, on medical education, in 1834, offers to us the opinions of Mr. Wardrop and Mr. Lawrence upon this subject, and in favour of this view of it.

In 1826, Mr. Wardrop associated with Mr. Lawrence, and gave a course of lectures on surgery, at the school in Aldersgate Street; which course he afterwards delivered himself for a few seasons, upon the retirement of Mr. L. to the surgical-chair of St. Bartholomew's Hospital. Some of these lectures have been published in the Lancet.

In the memoir of Mr. Lawrence, I have alluded to the meetings which were held at the Freemason's Tavern, on the subject of medical education, and which must be considered to have led to the adoption of many of those improvements in medical polity in this metropolis, which have since taken place. Mr. W. was an active coadjutor of Mr. L. in these proceedings, the nature and objects of which have been stated by Mr. L. in his published speeches, delivered at the meetings over which he presided. It is due to Mr. W. to say, that the principles avowed by him on these occasions, have been firmly maintained to the present period; but it is very much to be feared, that many insinuations were made against him in consequence, and that even in the highest quarters, and that they were attributable to the feelings excited by the avowal of his opinions, and his great desire for the amelioration of the profession. It is, however, satisfactory to mention, that they were disregarded by the distinguished individual to whom they were addressed, and who, during life, treated Mr. W. with marked respect. In the year 1818, Mr. W. received the appointment of Surgeon-Extraordinary to the Prince Regent; and, in the year 1823, when George IV. visited Scotland, he received his majesty's commands to attend him. His Majesty, upon the elevation of Sir A. P. Cooper to Serjeant-Surgeon, created a special appointment for Mr. W., and he was made "Surgeon to the King" in 1828; and on a subsequent occasion, it was intimated to Mr. W. that His Majesty's satisfaction with his professional conduct was such, that the King was desirous of remunerating him with a baronetcy; but this Mr. W. declined, for private reasons. He afterwards received,

as is shown in the evidence before the Committee of the House of Commons, £1000 for his services.

There are circumstances connected with the last illness of George IV. which deserve notice here, as forming part of Mr. W.'s professional history. About eight weeks previous to the King's death, Mr. Wardrop visited his majesty at Windsor, the King then being considered in a state of convalescence from a severe inflammatory attack of the chest. From the state of the respiratory and circulating organs, Mr. W. was convinced that the condition of the heart was much altered; and on returning to London, he instantly repaired to Sir Henry Halford, purposely to direct his attention to this important circumstance, and to urge him to visit His Majesty on the following day, which was several days sooner than had been appointed. His Majesty continued to be attended by the late Mr. O'Reilly, on whose practical talents the King had great confidence, as well as by Sir H. Halford; and Mr. Wardrop's visit at Windsor was not repeated until he was called upon by the "lord in waiting," commanding him immediately to repair to Windsor. This visit was made on Sunday the 25th of April, 1830. On this occasion, when Mr. W. entered the royal bedchamber, he found His Majesty alone, sitting upon a couch, his countenance bespeaking some serious mischief. He had great embarrassment in breathing; and, after detailing every circumstance of his case, and Mr. W. had made a most careful examination of the chest, His Majesty said, in a firm and decided tone, "Tell me, my good friend, what you think, really and truly, is the matter with me, for I am confident that there is something much more serious than ——— either thinks or chooses to tell me." Mr. W. then stated to His Majesty that the difficulty of breathing arose entirely from an impediment of the circulation of the blood through the heart. His Majesty replied, in a manly tone, "Tell me, Wardrop, honestly, if you think I shall recover." To which Mr. W. answered, that his condition was by no means hopeless, though His Majesty must be perfectly aware that any disease of a vital organ, like the heart, could not be altogether free of danger.

After having remained in the royal bedchamber about forty minutes, Sir William Knighton entered, and Mr. W. retired. The King having stated to Sir William Knighton the opinion which Mr. W. had given of his case, and Mr. W. having repeated that opinion to Sir W. K. at his own particular desire, Sir William then requested Mr. W. to state in writing that opinion, and the treatment he proposed to adopt, in a letter addressed to Sir Henry Halford, and which he would deliver to Sir Henry on his arrival at Windsor in the evening. In this letter, Mr. W. intimates his opinion that the affection of the heart might be dependent on an *arthritic diathesis*, and that, if by pediluvia and the application of stimulants to the legs and feet, the gout could be brought to manifest itself in the limbs, His Majesty might be relieved. He also suggested, that leeches should be applied to the region of the heart.

The *post mortem* examination of the King demonstrated the morbid condition of the heart, and afforded a most satisfactory proof of the correctness of the opinion Mr. W. had formed during the King's illness, and the propriety of the treatment he had proposed. But after the period of this visit, Mr. W.'s attendance at Windsor terminated, though he afterwards learnt that the King had repeatedly expressed a wish to see him, and also surprise at his never having returned to the palace. Such, however, was the helpless condition of the monarch on his death-bed, that he was entirely under the control of a few individuals who surrounded his person.

In concluding this most painful part of my narrative, in which, I trust, it will be apparent that I have no other desire than to be the impartial recorder of facts derived from the best authority, it is but justice to the memory of one of those individuals, Sir William Knighton, to state that, a short time previous to his decease, he evinced deep contrition for the conduct he had pursued on that eventful occasion; and on the very day of his death, Mr. W. had the gratification of receiving a letter from Lady K., (Oct. 11, 1836,) in which, to use her own words, she says, "It was the earnest desire of my late dearest husband, towards the close of his illness, to have requested you to have come to his bedside, in order that he might have expressed to you his entire good-will after the misunderstanding that occurred between you at the time of the late King's illness, when hurry and anxiety of mind caused what you imagined an omission towards you." This document could not fail to be acceptable to Mr. W., and to have been most grateful to his feelings, and it must be contemplated with emotion, as the last act of a dying man, making a struggle to heal a wound which he had inflicted on a fellow-being, and to quit this world of sorrow in peace with all mankind!

I must now direct the reader's attention to the works of Mr. W.:—The importance of vision to intellectual excellence and physical enjoyment, renders every attempt to illustrate the pathology of the organ of sight of the highest interest, and it is surprising that, prior to the appearance of Mr. Wardrop's *Essays on the Morbid Anatomy of the Human Eye*, no systematic treatise should have been produced. With the exception of detached papers on particular subjects, little else had appeared. To collect these together, and to render the practical observations of such men as Richter, Beer, Scarpa, Conradi, Voigtel, Schmidt, and others abroad, as well as those of our own countrymen, available to the practitioner, was a task requiring great penetration and judgment, and it is due to Mr. W. to say, that he executed this object in a masterly manner, and added, by his own ingenuity and experience, materially to the information possessed on ophthalmic surgery. He has the singular merit also of having arranged the subject in conformity to the classification of textures made by Bichât, the importance of which has already been noticed in the memoir given of that illustrious physiologist.

In the preliminary observations to his work, Mr. Wardrop gives a brief account of the system of Bichât, which he considers as founded on the most approved principles of philosophical investigation. The variety of textures which enter into the formation of the eye renders this organ the best example that could possibly be afforded in illustration of the accuracy of this system, and the investigation of this subject introduces us to an enlightened and philosophical mode of the treatment of its diseases. Mr. W. has arranged these, and pointed out their distinctions. To quote from any part of the work would extend this memoir beyond the assigned limits; and where all is alike important and practical, it would be difficult to make the selection. The work must be carefully studied, as it will be found to contain the best information on the subjects of which it treats. The first volume appeared several years before the second, being published in 1808, and again in 1819. The second volume appeared in 1818, and again in 1834. The coloured plates illustrative of the diseases are most beautifully and faithfully executed.

In 1809, Mr. Wardrop published *Observations on Fungus Hæmatodes*. This disease was formerly confounded with Cancer and Scrofula, although so strikingly different in many of its characters. To Mr. Hey we are indebted for its name; but Mr. Burns first described it under the title of spongoid inflammation, and Mr. Abernethy called it medullary sarcoma. Mr. John Hunter had designated it soft cancer. It is not a little singular that these authors should have been in ignorance of the researches of each other; but probably it is to be accounted for in the difference of name given to the disease. Mr. W. has the merit of comparing these accounts, and also of having first described it as occurring in the eye. Scarpa has done justice to our author upon this subject in his Treatise on the Principal Diseases of the Eyes.* Mr. W., he says, has shown

"from careful observation, founded on pathological anatomy, that the morbid change of structure of the eye-ball in children, commonly called *carcinoma*, is not in reality produced by cancer, but by another species of malignant fungus, to which modern surgeons have given the name of *hæmatodes*, a disease indeed equally, and, with regard to the eye, more formidable and fatal than cancer, but distinguished from it by appropriate and peculiar characters, which, not being confined to age, sex, or part of the body, attacks the eye-ball both in infants and adults, but especially the former, under the form of common cancerous fungus."

As I shall have frequent occasion to refer to Mr. W.'s researches on this subject, I shall content myself with here stating, that the work embraces a description of its anatomical characters, and fully details its history. A considerable number of facts are brought under view, to form a complete elucidation of the disease, and to give an account of it as occurring in various organs of the human body.

* Edit. 1813, translated by Briggs, p. 502.

In 1813, Mr. Wardrop published a case, equally interesting to the metaphysician and the physiologist—*The History of James Mitchell, a Boy born Blind and Deaf, with an Account of the Operation performed for the Recovery of his Sight.* Instances of the deficiency of hearing and speech are of very common occurrence, and are sufficient to excite our tenderest sympathies; but the case of a poor boy with absence of vision superadded to these calamities is truly lamentable. It is a defect in the human organization of which I know no other case upon record, and the whole narrative is replete with the most painful interest. The boy was fourteen years of age when brought to London and placed under Mr. W.'s care. The pupil of each eye was obscured by a cataract; in the right eye it was of a white colour and pearly lustre, and appeared to pervade the whole of the lens; in the left it was not equally opake, but the pupil of the right eye dilated most readily, and it was evident that he was sensible to light, though quite unable to distinguish objects of any kind. He had a fondness for light, and was eager in gratifying it. Mr. W. gives a very interesting account of this, his condition. There was no apparent defect in the organization of his ears, and he derived pleasure from striking his teeth with sonorous bodies. His senses of smell and touch were most acute—by the former he could readily recognize persons, and by the latter could distinguish various colours. He seemed also to enjoy a preternatural acuteness of taste, and by these senses to supply the deficiency he experienced in those of sight and hearing. Ordinary objects he examined by his fingers applied in the most precise manner—more minute objects he subjected to the application of his tongue, insinuating its point into the inequalities of the body under examination. By smell he readily detected strangers, and recognized persons previously known to him. He never partook of food without first submitting it to the ordeal of this sense, and in his selection he was very careful and delicate. He was very curious to make himself acquainted with all surrounding objects, and exhibited a great partiality to animals. His disposition and temper were generally placid, but he was easily excited to anger; on these occasions, and on no other, he would use his voice, in the utterance of the most harsh and loud screams. It is not a little singular that he should have had a love of finery, and was very proud of new clothes. Mr. W. determined on operating upon the right eye; this was effected with great difficulty, from his struggles in opposition to the necessary confinement, and at length the eye could only be couched—this produced an admission of light which gave him great satisfaction. On the fourth day of the operation he could distinguish a book placed on the bed, and in many of his attempts to touch it, he seemed to judge with tolerable accuracy of its distance. In this, however, it was evident that he placed but little trust in the information acquired by sight, for he always turned away his head while he carefully examined bodies presented to him by the sense of touch. On the seventh day Mr. W. took him into the street, and he was

much interested, though somewhat frightened at the busy scene around him. He was delighted with the view of various coloured clothes, and selected a suit of most fantastic hues,—light yellow breeches, and green coat and waistcoat. Mr. W. has given a curious account of the putting on of the garments, and designates it as one of the most extraordinary displays of sensual gratification which can well be conceived. He returned to Scotland: the fragments of the lens, and the opaque portion of the capsule were undergoing absorption, and his sense of sight improving accordingly; but not to a degree which enabled him materially to add to his stock of information.

As somewhat connected with the preceding subject, I may be permitted here to place out of its proper order a communication made by Mr. Wardrop to the Royal Society in 1826; a paper very interesting in a physiological point of view, as illustrative of the preservation of the nervous sensibility of the retina unimpaired for a great number of years. The paper is entitled, *Case of a Lady born Blind, who received Sight, at an advanced Age, by the Formation of an Artificial Pupil.* At six months, an operation had been performed on both the eyes, but the globe of one was destroyed, and in the other the pupil was closed. This state of blindness was permitted to continue until her forty-sixth year, when Mr. W., by three successive operations, removed portions of the closed iris, and thus restored vision. An account of her sensations up to the forty-second day after the last operation, is given by Mr. W., from which it appears, that up to that period she had acquired, but very imperfectly, if at all, the power of directing her eye to any given object; catching it only by repeated trials, and, as it were, searching for it; nor was she at that time capable of rightly appreciating the distances of objects. Colours, however, forms, and relative situations, in angular positions, were distinguished much earlier; the former immediately, the latter after very short practice. She appeared equally delighted and bewildered by her new sense; pleased with gay colours, and sparkling objects, but most profoundly and permanently affected by the grand features of nature—the clear blue sky, the fields and trees.*

In 1819, Mr. Wardrop successfully competed for a prize, offered by the Board of Agriculture, for the best *Essay on the Diseases of the Eye of the Horse, and on their Treatment.* Mr. W.'s Essay was printed by the Board in the first volume of the new series. As an investigation of the structure of organs, and an inquiry into their functions in brute animals, has been found essentially to promote a knowledge of human physiology, so I doubt not, advantage might also be derived from a consideration of the diseases to which they are subject in elucidation of those of the human species. The diseases of the eye of the horse are less numerous than those of man, and the treatment required is much more simple. Mr. W. has given an

* See Phil. Trans., 1826, Part III. p. 529.

account of the structure of the eye of the horse; of the simple, the puriform, and the specific inflammation of the organ; of the injuries of the eye, and of the introduction of extraneous substances between the eye-lids, and also of the specks on the cornea. These are considered in the different states or conditions of the animal, in which the treatment requires to be somewhat varied.

Mr. Wardrop's *Biographical Memoir of the late Dr. Baillie*, accompanying the edition of his works which Mr. W. edited, has been noticed in the memoir of that distinguished physician. It appeared in 1825, in two vols., 8vo., two years after his decease. Mr. Wardrop likewise prefixed to the "Morbid Anatomy," some *Preliminary Observations on Diseased Structures.* He there treats of specific diseases; of particular diseased structures; of the scrofulous and scirrhous structures; of the fungus hæmatodes; the fungus melanodes, and of compound diseased structures.

In 1828, Mr. Wardrop published a work *On Aneurism, and its Cure by a New Operation.* In this publication, the pathology of the disease, as more immediately connected with the new operation, is fully considered, and the operation of John Hunter reviewed. In the Lancet and Medico-Chirurgical Transactions, various parts of what is here brought together, had been detailed. The whole is placed in a connected view. The operation proposed by Brasdor, a professor in the School of Surgery of Paris, detailed by Desault in his lectures, was first performed by Deschamps, and next by Sir Astley Cooper, but with unsatisfactory results. Mr. W. successfully revived it, since which it has been adopted by Dr. Bush, Mr. Lambert, Mr. Montgomery, and others. It had, however, been severely condemned by Mr. A. Burns, and it therefore demands a more specific detail in this place. John Hunter's operation has already been noticed: he, it will be recollected, tied the artery on the *cardiac* side of the aneurism. Brasdor's operation is to obliterate the vessel on the *capillary* side. Some aneurismal swellings are so situated, as not to admit of securing the vessel between the tumour and the heart, and have, therefore, been deemed beyond the aid of surgery. Brasdor proposed in these cases to place the ligature on the capillary side of the tumour; but he never carried this operation into practice. Desault thought it likely to be useful, but failed to employ it. Deschamps executed it under most unfavourable circumstances, and the patient died in eight hours. Sir Astley Cooper, with his characteristic zeal, employed it in a case of aneurism of the external iliac artery, which extended into the abdomen; but the aneurism, after some time, burst, and the patient died from extravasation of the blood into the cellular membrane. Mr. Wardrop met with a case of carotid aneurism at the root of the artery, and in 1825 adopted the operation of Brasdor. He was led to this from viewing the principle of the operation to be that which nature employs to cure the disease by a *spontaneous* process. The subject of the operation was a female of the advanced age of seventy-five; the aneurism was of short

standing, had occurred after a violent fit of coughing, and had advanced to such a degree, as hourly to threaten the life of the sufferer: the aneurismal tumour was in contact with the clavicle, and it was quite impracticable to tie the carotid between the tumour and the heart. Under these circumstances, he determined upon adopting Brasdor's operation. The vessel was tied as close to the tumour as possible, and there was an immediate diminution of its bulk. By the third day it was reduced one-third of its size, and on the fourteenth it had lost all pulsation, and was about one half of its original dimensions. An ulceration of the skin on its more prominent part, admitted of the escape of large coagula, and on the twentieth day after the operation, nothing remained of the tumour but a wrinkled portion of skin, and a thickened portion on which the base of the tumour had rested. The health of the patient was completely re-established, and she lived some years afterwards in good health. A second successful case, also of the carotid artery, by Mr. W. was published in the Lancet for 1826; but this patient died of hypertrophy of the heart, attended with anasarca, &c., upwards of three months after the operation. It is not necessary to particularize other cases.

The object to be obtained in these cases was the coagulation of the blood which is contained within the sac, and this is to be effected either by cutting off all supply of blood to the sac, or by diminishing the momentum of the blood circulating through it. To what degree this is necessary to be diminished, has not hitherto been precisely ascertained. Mr. W. thinks, from an examination of cases of spontaneous cure, that the process of coagulation must commence when the impetus of the blood is very slightly diminished; and he is, in my opinion, entitled to great praise for the ingenuity he has exercised on this subject, and the practice subsequently established upon the views entertained by him in the relief of aneurisms of certain vessels, by the application of ligatures upon only *one of the branches* of the diseased artery. He has tied the subclavian artery in a case of aneurism of the arteria innominata, (see Lancet for July, 1827.) At the expiration of a year, no tumour could be perceived; the patient had suffered severely from bronchitis, and had undergone great depletion; but at this time her health was better than it had been for a long time. From this case it will be apparent that Mr. W. has not only fully established Brasdor's operation, but applying the principle upon which all aneurisms may be spontaneously cured, has introduced another and a new mode of operating, founded upon this principle, and applicable to cases of aneurism which have hitherto been looked upon as necessarily fatal. On this principle, no less than eight cases of aneurism have been operated upon, and all of them successful, except those where it has been injudiciously adopted, from the thoracic viscera having been in a diseased state.

Connected with this subject, I must now allude to the *Cyclopædia of Practical Surgery*, edited by Mr. Costello, of which three parts only have

hitherto appeared. Mr. Wardrop has contributed two important articles, one on *Anastomosis*, the other on *Aneurism*. The former Mr. W. views as serving three distinct purposes: preventing a defective supply of blood—diminishing the velocity in the current of blood—and abating the weight of the column of blood. Of the importance of a knowledge of the power of nature by anastomosis, or inosculation, I have already spoken in the memoir of Sir Astley Cooper, whose experiments and dissertations have tended to illustrate this subject in the most satisfactory manner. Mr. W. details the various kinds of anastomosis, represents them in ingenious diagrams, and applies this knowledge to the practical objects of surgery.

Mr. Wardrop's previous publication *On Aneurism*, will show how qualified he is to treat of the subject in all its branches; and in the article in the Cyclopædia, he has, with great perspicuity of detail—compressed, but in no way obscured—given a complete history of the disease, and the modes of treatment requisite for its various kinds and degrees. He has treated of the true, or encysted; of the false, diffuse, or traumatic; and of the varicose aneurism. He gives a detailed account of the different arteries in which aneurism has been found to occur, and in which they have been operated upon, with the results; and he enters into a consideration of the operations which have been proposed and adopted for their cure. All these subjects, of the deepest interest to the surgeon, are treated of in a most able manner, and the article offers a complete manual on a subject, for the relief of which, the modern improvements in surgery may be looked upon with the highest satisfaction. Nor are the instances of spontaneous cure of the disease overlooked—all the varieties of which he refers to one process, namely, that

"depending on the effusion of concreted fibrine within the sac, or both within the sac and a portion of the artery adjacent to the aneurism; and which fibrinous concretion is caused, or is permitted to be formed, whenever the circulation of the blood within the sac becomes preternaturally languid."

The last distinct publication by Mr. Wardrop, is the first part of a work *On the Nature and Treatment of the Diseases of the Heart; with some new Views on the Physiology of the Circulation.* These are entitled to close investigation. Mr. W. contends for the existence of three important functions connected with the circulation of the blood, which have hitherto been overlooked by physiologists:

"*First.* That the muscles, besides being the active organs of locomotion, perform the important office of increasing the quantity of arterial, as well as venous blood, within the cavities of the heart.

"*Secondly.* That the lungs regulate the supply of blood to the heart, so as to prevent congestion within the heart's cavities; and,

"*Thirdly.* That the subcutaneous veins performing the offices of a reservoir, prevent congestion of blood within the pulmonary vessels."

By establishing these important functions,—of the organs of active motion,—of the lungs, and of the subcutaneous veins,—several phenomena,

both of the respiratory and circulating organs, he thinks, admit of a satisfactory explanation. These views are put forth preparatory to a second part of the work, to treat of the diseases of the heart. The subject must be admitted to be of the highest importance, and Mr. W. is qualified to do justice to it. Continental physiologists have been excited to the inquiry, and the work has already appeared in the French and German languages. Mr. W. has ventured to lay aside all pre-conceived opinions on the subject of the heart's action, and to rely upon his own powers of observation, and the reflections springing from original sources of inquiry.

I have previously alluded to Mr. Wardrop's contributions to the *Encyclopædia Britannica*, and the *Edinburgh Medical and Surgical Journal.* The entire article on *Surgery*, in the former work, was composed by Mr. W., in accordance with the system of Bichât; and the matter is well digested and compressed. It contains many original views. In the earlier volumes of the latter work, there are seven papers:—

1. (Vol. II. p. 203.) *Case of Crural Hernia, in which the Obturator Artery surrounded the mouth of the Sac.* As every variety of hernia, or of the parts concerned in that disease, demands attention, in the event of an operation being required to relieve it from strangulation; this case deserves its appropriate record. Mr. W. met with it whilst engaged in his anatomical studies at Paris, and the subject of it was brought into the anatomical theatre. He made a drawing of the variety in the distribution of the artery, and a plate is given to point it out with accuracy. Dr. Barclay had a preparation of a similar description.

2. (Vol. III. p. 56.) *Observations on the Effects of Evacuating the Aqueous Humour in Inflammation of the Eyes.* According to Mr. W. the opacity or transparency of the cornea may depend upon the degree of distention occasioned by the humours within the eye-ball; and any one may satisfy himself on this point in the dead subject, by pressing the globe; when, according to the force applied, will be the opacity of the transparent cornea. Mr. W. applies this fact to the diseased condition of the organ, and proposes the evacuation of the aqueous humour to relieve this, as well as in cases of inflammation of this organ. He relates several instances in which immediate relief ensued from the practice, which he strongly recommends, as no increase of inflammation followed in any case, nor was it attended with any disagreeable consequence. This paper was separately published with additions in 1818.

3. (Vol. III. p. 421.) *Dissection of two Cases, in which a Moveable Body was formed within the Cavity of the Vaginal Coat of the Testis.* In one case a substance having the elasticity of common cartilage, and being three-fifths of an inch in diameter, was found loose in the cavity. A section of the body, which offered considerable resistance to the knife, demonstrated its formation in concentric layers, with a brown spot in the centre,

as hard and as brittle as bone. The second case presented a substance resembling cartilage, of the size of a garden pea, loose in the vaginal coat. Mr. W. who was ignorant of the history of either of these cases, being in subjects brought to the dissecting-room, conjectures the bodies to have been the result of previous inflammation, portions of effused lymph being in both instances to be observed on the surface of the coats of the testis. The real difficulty appears to be in accounting for their detachment from the surface of the membrane. Mr. W. cites a case by Professor Richter, who operated upon a patient, and allowed the escape of three bodies of a similar nature, which were loose in the scrotum.

4. (Vol. V. p. 1.) *Practical Observations on the mode of making the Incision of the Cornea, for the Extraction of the Cataract.* The incision in the cornea is the most important step in the operation for cataract: it must be ample enough to allow of the free egress of the lens, and it must be made at a point to interfere as little as possible with vision. It is, therefore, usual to make it along the edge of the cornea, where it is in conjunction with the sclerotic coat; and the great difficulty to be avoided is, the contact of the knife with the iris, which is likely to ensue the instant the aqueous humour has escaped from the wound. Mr. W. proposes to remedy this by making the incision with the triangular knife of Beer, in such a manner, as not to take away the support to the iris when it is made. He particularly describes the mode of effecting this, and he published the paper as a separate pamphlet in 1818.

5. (Vol. VIII. p. 197.) *Case of Palsy cured by Titillation, with some Observations on the Effects of Titillation on the Nervous System.* A man twenty-three years of age, belonging to the army in Portugal, had several attacks of fever, and, upon his return to Britain was struck by a complete paralysis of the left side. His leg remained feeble, and his arm and hand useless, eighteen months after the attack. In this state Mr. W. saw him, and, after necessary measures to take off any febrile condition of the system, he determined upon trying the effects of titillation upon the skin, having repeatedly observed the close sympathy which exists between that part of the body and the nervous system. The mode adopted was to pass a feather lightly across the palm of the hand three or four times daily until laughter was occasioned. This was not readily produced in the first instance; but it became easier, and then the beneficial effects resulting from the plan were perceived. He described a feeling of re-animation in the part, and this continued for a short time after each fit of laughter. A power to produce a sensible and voluntary motion of the fingers followed, and in the course of a month he was enabled to grasp a body with moderate firmness. The elbow and shoulder joints manifested an improvement, and in the course of two months from the commencement of the practice, Mr. W. says he had the satisfaction of seeing the man carrying a bundle under the affected arm. The same mode of treatment was applied to the lower limb,

and laughter was here more readily produced than in the hand. In four months he was perfectly well. It should be remarked, that, in addition to the titillation, he also used dry-rubbing of the limbs, to remove an œdematous condition, and to produce a greater excitation of the skin. From a single case, it would be unsafe to draw any conclusion, but the subject is surely deserving of notice, and the method, of repetition. It is not adapted to all cases of palsy, and Mr. W. judiciously warns the medical practitioner from resorting to it where any increased action in the brain is going on—it is only applicable to cases where the primary affection is removed, and the paralytic state, the consequence, alone remains.

6. (Vol. IX. p. 11.) *Dissection of an Albuminous Concretion which was found in the Cavity of the Thorax, loosely adhering to the Pleura Pulmonalis; with some Observations on the Diseases of the Serous and Synovial Membranes.* This paper is a consequence of the consideration of No. 3, previously noticed. The relation of the moveable substances in the scrotum to similar bodies within the synovial or serous membranes, must be apparent, and this case gives an account of an albuminous concretion, of the size of a Spanish hazel-nut, attached to the pleura by a few points.

7. (Vol. X. p. 1.) *Sketch of the Life and Writings of the late Mr. Benjamin Gibson, Surgeon in Manchester.* The subject of this sketch was well known for various interesting improvements made by him in different branches of surgery. These are well stated by Mr. W.

To the Transactions of the Medico-Chirurgical Society, Mr. W. has furnished ten papers:

1. (Vol. IV. p. 142.) *On the Effects of Evacuating the Aqueous Humour, &c.* This is a continuation of the subject, first treated of in the Edinburgh Medical and Surgical Journal, and gives the subsequent successful result of the mode of treatment in a series of cases of ophthalmia, and in some affections of the cornea. The late Mr. Ware adopted the practice in the purulent ophthalmy of children.

2. (Vol. IV. p. 309.) *History of a Diseased Metacarpal Bone.* The date of this paper is 1813, at which time few instances had occurred in which diseased portions of bone concerned in the formation of the articulations had been removed in order to save the limb. The practice is now fully established. Mr. W. was one of the earliest to adopt it.

3. (Vol. V. p. 129.) *An Account of some Diseases of the Toes and Fingers, with Observations on their Treatment.* Mr. W. endeavours to show that the term "growth of the nail into the flesh" has not any real existence—that there is no alteration whatever in the shape of the nail, and that it has no more share in the production of this truly painful and troublesome affection than that which arises from its resistance to the tender flesh, to which it becomes a source of constant irritation. Mr. W. recommends that the nail should be left untouched, and that the fungous and swollen flesh should be diminished by the application of caustic. He

has also in this paper described what he calls *Onychia Maligna*, an ulceration at the root of the nail of a very malignant character. It may occur both on the fingers and toes, and convert them into masses of deformity. Amputation has often been resorted to in such cases; but Mr. W. has succeeded in arresting the progress of the disease, and destroying its character by the use of mercury internally, so as sensibly to affect the gums. Lunar caustic he has found the most successful application for corns. For chilblains he strongly recommends the application of tincture of cantharides, one part of which is to be mixed with six of the soap liniment. I have extensively employed this remedy in the early stage of the disease with the most beneficial results.

4. (Vol. V. p. 358.) *Case where a Seton was introduced between the Fractured Extremities of a Femur, which had not united in the usual manner.* This subject has been noticed in the memoir of Sir B. C. Brodie, Bart., who has subjoined a case to this paper, in illustration of the advantages of the practice adopted.

5. (Vol. VII. p. 278.) *On the Laceration of the Fibres of Muscles, particularly of the External Gastrocnemius.* This, I believe, occurs more frequently than is generally supposed. The muscle must be relaxed, and the torn fibres placed in apposition, until union is effected.

6. (Vol. VIII. p. 246.) *Account of a Case where a severe Nervous Affection came on after a Punctured Wound.* We know but little of the diseased changes occurring in the nervous system, and examinations of wounded nerves have exhibited to the eye of the pathologist, very unsatisfactory evidence of altered structure. The case recorded by Mr. W. strongly illustrates this, for a woman received a prick of the finger with a gooseberry thorn,—it was succeeded by pains and nervous paroxysms of such intensity, as to render it necessary, a twelvemonth after the occurrence, to amputate the finger, by which all distressing symptoms immediately vanished; but dissection of the finger exhibited no change whatever in the appearance of the nerves differing from their ordinary and healthy condition.

7. (Vol. IX. p. 199.) *Some Observations on one Species of Nævus Maternus; with the Case of an Infant where the Carotid Artery was tied.* In this paper Mr. W. demonstrates the structure of the subcutaneous nævus, to consist of a congeries of cells, which are rather the continuation of veins, or hold a direct communication with them—hence venous blood circulates through them in the same manner as the arterial blood does in what Mr. John Bell has called the aneurism by anastomosis. In the case in which the carotid artery was tied, the child died on the fourteenth day after the operation, being exhausted by the irritation of an ulcer, which involved the whole surface of an enormous tumour. The success attending Mr. White's plan by ligature, will, in most instances, induce surgeons to employ it in future cases of nævus.

8. (Vol. X. p. 1.) *Account of the Rheumatic Inflammation of the Eye, with Observations on the Treatment of the Disease.* Rheumatic ophthalmia will not admit of active depletion, like to ordinary inflammation of the eye. Mr. W. has found the greatest advantage to arise from the evacuation of the aqueous humour, and the internal exhibition of small doses of cinchona. The paper contains an excellent description of the local and constitutional symptoms characterizing the disease.

9. (Vol. X. p. 273.) *Some Observations on a Mode of performing Operations on Irritable Patients.* This method consists in bleeding to syncope; a practice, perhaps, in a few cases admissible, but in the majority of instances likely to prove prejudicial to recovery. It should be observed, that Mr. W. does not recommend it for indiscriminate adoption.

10. (Vol. XII. p. 205.) *Case of a Wounded Nerve of the Thumb.* A partial division of a nerve is not unfrequently followed by distressing symptoms, which receive relief by a complete incision of the wounded part. This case strongly exemplifies the fact.

To the second volume of the Transactions of the Medico-Chirurgical Society of Edinburgh, Mr. W. contributed an *Account of the Exanthematous Ophthalmia.* This has generally been confounded with scrofulous ophthalmia; but it is perfectly distinct, and is always either accompanied or preceded by some eruptive disease—in the former case most frequently behind the ears, and in the latter succeeding to measles, scarlet fever, &c. Mr. W. gives a particular account of the symptoms characterising it, and recommends for its treatment, great attention to the condition of the bowels, which are always found to be more or less disordered in these cases.

In addition to the various works and separate papers, of which I have now given a brief account, the volumes of the Lancet will be found to contain a variety of miscellaneous papers by Mr. W., reports of cases, lectures, &c., which must all be perused with interest. I have not space even to enumerate them; but I must especially direct the attention of the medical reader to those on *Bleeding*;* to some *Clinical Observations on Various Diseases;* and to a *Case of Nævus on the Face, successfully treated by tying the Carotid Artery.*† In this case the nævus was extensive, and dipped into the orbit. The progress of the case under the operation was most favourable, and, ten months after it, nothing remained but the membranous bag which was originally distended with blood This memoir has unavoidably extended to a considerable length, and leaves me only room to express my gratification at the labours of Mr. W. and to wish him every success in the prosecution of his ingenious researches.

* Published separately with additions in 1835. † Vol. X. et seq.

James Wilson

JAMES WILSON, F.R.S.

"Infusing into their young breasts such an ingenuous and noble ardour, as would not fail to make many of them renowned and matchless men."

MILTON.

JAMES WILSON was born at Beith in Ayrshire, in the year 1765, where many of his family still reside. His father was educated for the Scotch church, and removed to London, taking with him the subject of the present memoir, whom he placed as a house-pupil with Mr. Cruikshank. To this celebrated anatomist he was an exceedingly valuable assistant, zealously devoting himself to anatomical pursuits; and he aided Mr. C. for many years in making dissections for him, and also for John Hunter. Several of the reports of these are still in the possession of his son, Dr. Wilson, Physician to St. George's Hospital: many of them are of great interest, and some few have been deemed of sufficient value to be read at the evening meetings of the Royal College of Physicians: one relates the appearances observed in the celebrated Dr. Samuel Johnson; another, made with Dr. Baillie, is on a case of transposition of the viscera; a third gives an account of an unusual distribution of the abdominal veins, by which the trunk of the vena portæ is ordinarily constituted; and a fourth details the occurrence of pus in the veins of the uterus in the bodies of several females who died of puerperal fever—these were made in conjunction with Dr. John Clarke, whose fellow-pupil he was, and whose sister he married.

Mr. Wilson was a resident with Mr. Cruikshank during ten years, as his pupil, assistant, and nominal partner, and many of the preparations belonging to the museum of Mr. C., purchased, after his decease, by the Russian government, were made by Mr. W., not less than two thousand, being mostly injections. The connexion of Mr. C. with Dr. Baillie was sufficient to bring under the notice of this excellent physician the talents and assiduity of Mr. Wilson, and he felt warmly interested in his welfare—this was occasioned solely by Mr. W.'s ability, industry, and good character; and it is evident, from a letter I have seen, that Dr. Baillie placed implicit confidence in Mr. Wilson, and that, during an illness in 1788, he entrusted to him the care of his business. During the whole of his life, Dr. B. may be said to have endeavoured in every way to promote Mr. W.'s advantage, and no one was capable of feeling this kindness more than the individual on whom it was bestowed.

Mr. Wilson was successively a pupil of Dr. William Hunter, Mr. John Hunter, Dr. Baillie, and Mr. Cruikshank, for the acquisition of anatomical and surgical knowledge, and of Dr. Fordyce and Dr. Osborn, for other branches of professional information. Mr. W. was engaged as Demonstrator of Anatomy for Dr. Baillie in 1785. In October, 1791, he entered into an engagement with Mr. Cruikshank to teach anatomy in the dissecting-room, for which duty he was to receive the sum of sixty guineas for the two courses of the session; and he became still further associated with Mr. C., as joint anatomical lecturer, when Dr. Baillie quitted the school. Mr. C. had scarcely made this arrangement with Mr. Wilson, when he was taken so seriously ill, as to be incapacitated from performing the portion of duty that devolved upon him, and which in particular embraced the surgical part of the course, necessarily requiring much practical knowledge to be serviceable to the pupils, and it became a very arduous matter to Mr. W., to whom Dr. Baillie wrote on the occasion in the following manner:

" Dear Wilson,

" I wish you to offer my respects to the pupils, and to state to them, on my part, ' that I have been educated as a physician, that I have paid no particular attention to surgery, and that I am not qualified to give lectures upon this subject; otherwise, *great and distressing* as the effort would have been to have again come forward after having taken my leave, I should still have made that effort upon this occasion.'

" After offering your own services, I think you should mention that you hope Mr. Cruikshank will be able to appear among them in a short time, and to give a considerable part of the lectures of this course—you should request also that no anonymous letters be sent him implying censure, that his mind was never capable of bearing this treatment, and that now it was less able to bear it than ever.

" Yours, &c.

" M. Baillie."

That Mr. Wilson ably contended against the difficulties, is evident from an address forwarded at the conclusion of the course to him, expressive of the satisfaction of the pupils, concluding thus:

" And could we be farther indulged by being permitted to express our solicitude for the welfare of the school and yourself, the undersigned would feel no hesitation in saying, that a continuance of the ability, industry, firmness, and friendly attentions to your pupils, which you have already so strikingly manifested, will insure, as far as such consequences may be connected with your own efforts, the reputation, success, and prosperity of both."

This address is signed by several who have since honourably distinguished themselves in their profession. The lectures alluded to were the first given by Wr. Wilson, and he completed the series then in the course of delivery. He now gave distinct courses on surgery at his private residence in Great Queen Street, Lincoln's Inn Fields, and subsequently in Argyle Street, a license for which is in the possession of his son. It is

curious, and bears date Nov. 19, 1799, and is signed by Sir W. Addington, Knt., and Edward Read, Esq., two of his majesty's justices, holding a special sessions at the public office, Bow-Street, under the provisions of an act of the 31st of George III. c. 79, for the effectual suppression of societies established for seditious and treasonable purposes, and this license sets forth that, "it appearing to us that the said lectures are attended by respectable gentlemen, and established for scientific purposes, and also that the said lectures have nothing either in their constitution or operation inimical to the government of these realms, We the said justices, therefore, do agree to license the same."

These lectures, for a period of ten years from 1793, were attended by a numerous class, consisting of many of the medical officers of the navy and army. Sir James M'Grigor, the present most respected head of the medical department of the army, was one of the pupils. Mr. W. has often observed, that they were to him the most profitable lectures he ever gave; but, from the labours of the anatomical school, he was under the necessity of relinquishing them. They were, however, afterwards re-established, at the request of the pupils, in the museum at Great Windmill Street, and Mr. Brodie was associated with him as a lecturer on surgery. This gentleman, whose success in his profession has neither been greater than his merits deserve, or the anticipations entertained by his friends, with a modesty which generally accompanies distinguished talents, felt diffident in appearing as a lecturer alone on the practical part of his profession. Mr. W. therefore undertook to join him in this undertaking, and gave up to him all the fees received for such lectures. After a time, Mr. W. resigned the entire course to Mr. B., the success of whose labours in this respect has already been duly noticed, and their continuation is to be traced to the course now in delivery by Mr. Babington and Mr. Cæsar Hawkins. It must be recollected that Mr. Brodie had been demonstrator to Mr. Wilson for some time previously, and it is due to Mr. Wilson to state, that his arrangement with Mr. Brodie was upon the most liberal terms, and in full estimation of his great industry and abilities. It is probable also that Mr. W. felt that in promoting Mr. Brodie's career he was also discharging a debt of gratitude due to Dr. Baillie for the protection he had received from him in a similar appointment, and in the same school; and there is an anecdote told of Dr. B. on this subject, which does great credit to his heart, and marks the uprightness of his conduct and character. Dr. B., it is said, called on Mr. W. upon hearing of the arrangement he had made with his relative, and, being well acquainted with the limited nature of his resources, begged of him not to sacrifice his own interests, or those of his family, to his honourable feelings of gratitude towards him or his relations. Mr. Wilson formed a right estimate of Mr. Brodie's talents and industry, and the connexion continued until the professional avocations of Mr. B. at St. George's Hospital and in private practice rendered it impossible for him to allot

that portion of time to teaching anatomy which was absolutely necessary.

When Mr. Wilson commenced lecturing, he had the advantage of Dr. William Hunter's collection, which remained in the museum and house, under the care of Mr. W., with the sanction of the trustees, until it was removed to Glasgow. At considerable labour, and great expense, he incessantly toiled to complete a collection adequate to the purpose of teaching, and this he successfully accomplished. He made also a catalogue of the preparations, the autograph of which was presented by Dr. Wilson to the College of Surgeons in Edinburgh, who purchased the museum, and was considered by the author as a great anatomical work. In this labour, his son tells me, he would frequently sit up till three or four in the morning, with his affectionate wife by his side, over the delicate preparations of the eye and ear, at that time unequalled, in one of the attics of the large house in Windmill-Street, and this after an exhausting day of business, demonstrations, and lectures of two hours' duration. By this practice he, to use his own words, "lost the habit of sleep." The museum was frequented by the most distinguished men of the day; and many who had curiosity upon subjects of anatomy, there had their inquiries answered, and their difficulties solved.

As a lecturer, Mr. Wilson was distinguished by the clearness of his arrangement and the neatness of his description. I was not a pupil of Mr. W., but I recollect once to have heard him lecture upon the lower jaw, and I felt that it was one of the most comprehensive anatomical lectures I had ever heard. The enthusiasm he displayed, and the earnestness with which he developed the different parts, effectually secured the interest of his auditors. The manuscripts relating to his lectures, now in the possession of Mr. Lane, show how zealous he was in the duties of teaching, and that he highly prized a proper arrangement, a "lucidus ordo." He commenced as a demonstrator in 1785, and continued to lecture until the time of his death in 1821. It was his intention to have retired at the end of the session of 1821-22. He was always punctual in his attendance, and frequently lectured beyond the appointed time. After the lecture, he would enter familiarly into conversation with the pupils, and resolve any difficulties they might experience on the subject of the lecture. His last lecture was on muscular motion, delivered the day before his decease, the diagrams to illustrate which are introduced into his portrait by Drummond, in the library of the Royal College of Surgeons. This is, however, an indifferent likeness of him, and I have therefore, with the approbation of his family, selected a most esteemed resemblance, painted by Mr. Pope, known not only as a portrait painter, but also as an actor of some merit.

In demonstration, Mr. Wilson's favourite subject was the side-view of the pelvis. The dissection for this was always made by himself, and it was a constant object of study by the pupils. He has often been occupied during two whole mornings in making this preparation for lecture, giving

up all other business to accomplish it. He is entitled to the merit of having discovered a pair of muscles, which had hitherto not been described; and he communicated an account of them to the Medico-Chirurgical Society. The paper is printed in the first volume of the Transactions, and accompanied by an excellent plate in illustration. It is entitled, *A Description of Two Muscles surrounding the Membranous Part of the Urethra.* These had been partially demonstrated by his predecessor Dr. Baillie, but he only viewed them as consisting of some circular fleshy fibres surrounding the membranous part of the urethra, and had not traced them to their termination by a tendinous insertion into the pubes. Anatomy is literally the geography of medicine and surgery, and without a precise knowledge of all its parts, we should be unable to account for any of the functions, or offer explanation of any impediment that may present itself, in operations upon the human body. The muscles described by Mr. Wilson, when under spasmodic action, may be looked upon as one of the causes of difficulty frequently experienced in the introduction of the catheter; and they, therefore, merit particular notice. They may be described as two distinct fleshy bellies, belonging to muscles of a triangular form, which unite in one common tendon, each, however, having a separate tendinous attachment to the inside of the symphysis pubis, and so placed as to surround the membranous part of the urethra. Their action is to draw this part upwards, and to press it against the cartilaginous arch of the pubes: they also contract upon the membranous part of the urethra, and may thus even close up that portion of the canal. Mr. Wilson made careful search in the writings of Winslow, and other anatomists, but failed to discover any description of these muscles. This has, probably, arisen from their being confounded with the levatores ani. Mr. W. particularly points out the mode in which the dissection is to be made for their demonstration.

When Mr. Wilson resolved to retire, in part, from the labour of teaching anatomy, he had great reason to suppose that the premises in Great Windmill Street—of which, in 1807, he had purchased the freehold from Dr. Baillie, for the sum of £4,000—would be bought by the College of Physicians, at that time anxious to remove from Warwick Lane. This proposal was over-ruled in the College after some discussion; and Mr. W. subsequently sold the premises to a printer, reserving a lease of the museum and back premises for the anatomical school, henceforward to be conducted by himself and Sir Charles Bell, who appointed his nephew, the late Mr. Shaw, to the superintendence of the dissecting-room. In the arrangement made on this occasion, a right was reserved to Mr. Wilson, of introducing his son to a certain number of lectures, during the last three years of his partnership with Sir C. Bell. As Dr. Wilson went abroad with Earl Spencer, this right of lecturing was never claimed by him.

Judging from Mr. Wilson's robust appearance, no one would have conceived him to be at all delicate, or a likely subject for any diseased affection of the lungs; yet, at the early age of eighteen, he had, during his close attendance in the dissecting-room, been attacked with a large discharge of blood, followed by matter from an abscess in these organs, and he was literally sent out to Camden Town to die. An abscess of the arm, however, supervened, the discharge from the lungs abated, and he was sufficiently restored to return to his profession; but, at times, during the whole of his life, he occasionally brought up small quantities of blood. He had often suffered from feelings of asthma, and had expressed an opinion of being affected by some disease of the heart. He repeatedly complained of most strange and distressing sensations about this organ, as if it threatened to stop altogether. He was very much influenced by states of atmosphere, exhilarated by the air of the sea and open country to a remarkable degree, and sadly distressed by the London fogs. He was very sensitive of odours, yet not distressed by that of the dead body! He was often, as he used to express it laughingly, "made drunk" by the vapour of the spirits over which, for hours together, he used to work in forming his museum. This always happened in the demonstration of the nerves on a small subject, kept for the purpose in a vessel with spirits.

On the 21st of November, 1821, Mr. Wilson was found by his son, and Mr. Samuel Lane, his house-pupil, nearly insensible over a half-finished letter in his own room, between ten and eleven in the morning. He spoke a few words articulately, and placed his hand on his breast. His son immediately bled him to the amount of about ten ounces, and without difficulty. Dr. Baillie came in haste from Cavendish Square, but found him insensible. His pulse became very slow, and he never rallied, dying in about half-an-hour from the time his son found him. Mr. Abernethy examined the body on the 23rd, and the following is a statement of the appearances as drawn up by that distinguished anatomist.

"The whole surface of the left lung adhered to the sides of the chest. Both lungs were loaded with blood and fluids, the left lung more especially, yet, in neither was there any disease or induration. Both sides of the heart were empty, as also the thoracic aorta, and there was no disease within, except a slight thickening of the semilunar valves of that vessel. It therefore appears, that at the time of death, the blood did not return to the heart, either from the lungs or general system. The vessels of the dura and pia mater were tinged with blood. Serous effusion had taken place to a considerable extent, between the tunica arachnoidea and pia mater; the interior vessels of the brain did not appear distended, and there was not more fluid than usual in the ventricles. The coats of the right carotid artery were thickened, where it emerges from the cavernous sinus, and this vessel was dilated in its course through that cavity."

Mr. Wilson was buried in the chapel in Bayswater Road, belonging to the parish of St. George Hanover Square, followed by his relatives and former colleagues, Dr. Baillie, Mr. Thomas, and Sir Charles Bell.

When the sudden event to which I have alluded, occurred, Mr. Wilson had just began to arrange his thoughts, and to compose his feelings for his farewell lecture in 1822; and his old pupils set themselves to think of some memorial of regard, to be presented to their faithful teacher and friend. I have already given Mr. W.'s character as a lecturer. As a man of highly honourable and generous feeling, he is well remembered by many now living. His manners were frank and cordial, with the polish of good breeding. He was a great favourite with young persons, accommodating himself to their tempers and dispositions, and encouraging them by his advice and instruction. He took great pleasure in all manly pursuits, and entered with great zeal as a volunteer in the Bloomsbury Inns of Court Association, when the country was threatened to be invaded by Napoleon. He was a man of undaunted courage, but gentle and affectionate as a child; most kind and liberal in the exercise of his profession, and in all his dealings—indeed, in matters of business, much too careless of his own immediate interests. His patients and friends were very much attached to him. He was exceedingly humane, and shrunk from inflicting pain on any living thing; yet he was firm and decided on all proper occasions. His taste in literature was manly and refined, although, in early life, his general education had not been much attended to. His enunciation was admirable; and his opinion on theatrical elocution and acting, was highly valued by many of the leading authors and actors of the day, to whom, from his old friendship with Mr. Harris of Covent Garden Theatre, he was well known. Among these, were the late Mr. Morton, one of his earliest and most attached friends, Mr. Reynolds, the Kemble family, the late Mr. Lewis, Mr. Richard Jones, Mr. Fawcett, Mrs. Davenport, Miss O'Neil, &c. By many members of the theatrical profession he is remembered with unaffected gratitude, for the important services he so liberally rendered to them in their real hour of need—sickness and sorrow.

It remains to notice the works of Mr. Wilson. His paper on the muscles belonging to the urethra, has already been mentioned. His earliest printed case was, I think, in 1798, when he communicated to the Royal Society, (of which he was elected a Fellow in 1803,) through Dr. Baillie, *A Description of a very unusual Formation of the Human Heart.* All deviations in the structure of this most important organ of the circulation of the blood, deserve to be recorded; observation of them serves frequently to demonstrate the ordinary and healthy mode of action, and leads to suggestions for the relief of disordered conditions, which otherwise, probably, would have escaped the attention of the physiologist and physician. The monstrosity described by Mr. Wilson in this paper, is of great rarity; in it, nature seems to have substituted the circulation which takes place in amphibious animals, for that of the human species, and the subject of it lived for seven days, being born at its proper period. The integuments of the upper and fore part of the abdomen were wanting; their

place being supplied by a membranous covering, through which a pulsating tumour could be felt; and from the nature of its action, no doubt was entertained of its being the heart. Upon dissection, this proved to be the case; it was that organ imbedded in a cavity formed on the superior surface of the liver. The heart itself consisted only of a single auricle and ventricle, each of them large in their size. A large trunk arose from the latter, ascended into the chest, divided into two large branches, one of which formed the aorta, and the other the pulmonary artery. The bronchial arteries and veins were wanting. Mr. Wilson has described the distribution of the branches of the blood-vessels in this case, in which it is evident that the blood in circulation, must always have been of a mixed character, partaking partly of an arterial, and partly of a venous nature. An excellent plate representing the parts, accompanies the paper.

Mr. Wilson was appointed Professor of Anatomy and Surgery to the Royal College of Surgeons; and, in 1819, he published *Lectures on the Blood, and on the Anatomy, Physiology, and Surgical Pathology of the Vascular System of the Human Body.* These had been delivered in the summer of this year, and they are inscribed to Dr. Baillie, who was highly gratified by this public mark of respect and gratitude. Six of these lectures were given upon the foundation of Edward Arris and John Gale, on human anatomy; and nine, which are called the museum lectures, on surgery.

In the ensuing year he published a second series, delivered before the College in the summer of 1820, being *Lectures on the Structure and Physiology of the parts composing the Skeleton, and on the Diseases of the Bones and Joints of the Human Body, preceded by some Observations on the Influence of the Brain and Nerves.* These he inscribed to Sir William Blizard. And, in 1821, he published a third course of *Lectures on the Structure and Physiology of the Male Urinary and Genital Organs of the Human Body, and on the Nature and Treatment of their Diseases,* which he dedicated to Mr. Cline. These volumes contain a very comprehensive and judicious statement of the best received opinions on the subjects to which they relate, and offer a body of information for the guide and instruction of the medical student and practitioner. Mr. Wilson had begun to arrange materials for a fourth series of lectures at the college, on the Brain and Nervous System. He published in the third volume of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, a curious *Instance of the Obliteration of the Vena Cava Inferior from Inflammation;* also, *A Case of Paralysis, from Enlargement of Bone, cured by the use of Mercury;* and *A Case of Erysipelas.* I also understand, he published a pamphlet on the mode of treating diseases of the spine; for a copy of which I have vainly sought, either in private or public medical libraries.

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